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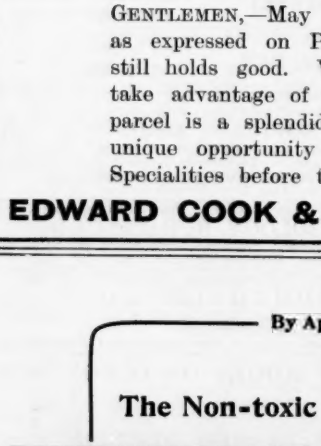

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ON THE

LATENT PERSISTENCE AND THE REACTIVATION OF PATHOGENIC BACTERIA IN THE BODY.

Delivered before the Royal College of Physicians of London on Nov. 12th, 1908,

BY LEONARD S. DUDGEON, F.R.C.P. LOND.,

BACTERIOLOGIST TO, AND JOINT LECTURER ON GENERAL PATHOLOGY AND LECTURER ON SPECIAL PATHOLOGY IN THE MEDICAL SCHOOL OF, ST. THOMAS'S HOSPITAL.

MR. PRESIDENT, FELLOWS OF THE COLLEGE, AND GENTLEMEN,—My first duty is to thank you for the great honour which you have conferred upon me in asking me to deliver the third Horace Dobell lecture. This honour is still further increased by the fact that the two previous lecturers, Dr. E. Klein and Dr. F. W. Andrewes, have added by numerous investigations so considerably to the advancement of the science of bacteriology.

This lectureship was founded by Dr. Horace Dobell for the purpose of encouraging research in "the ultimate origin, evolution, and the life-history of bacilli and other pathogenic micro-organisms." I have endeavoured as far as possible to discuss certain details concerning the life-history of many of the more important pathogenic bacteria, more especially in reference to their existence in normal tissues and their persistence in the body subsequently to some infective lesion.

It is now being recognised that pathogenic bacteria may persist in the tissues for varying periods without causing any ill-health in the patient in whose tissues they occur, but at any period they may leave their host to infect others or may for some unknown reason excite inflammatory changes in the tissues in which they have been living in an inactive state.

ON THE BACTERIOLOGY OF NORMAL ORGANS.

Ford,[1] in 1901, published the results of researches in the *Journal of Hygiene* on the bacteriological investigations of the normal organs of rabbits, guinea-pigs, dogs, and cats. He found that each species of animals showed its peculiar bacteriology regardless of the condition under which the animals were killed, or the method by which cultures of the organs were made. Thus the staphylococcus albus, staphylococcus aureus, bacillus mesentericus, bacillus proteus, and certain pathogenic spore-bearing bacilli were found in the organs of rabbits and guinea-pigs. Positive cultures of bacteria were grown in a large proportion of cases usually on the sixth, seventh, or eighth day, but in some instances as late as the seventeenth. In summarising the results of these investigations he says: "In whatever manner these latter questions be answered, I must maintain as a result of the experiments here cited that at least 70 per cent. of the internal organs of our ordinary domesticated animals contain bacteria which are capable of development, provided a sufficient time be allowed to elapse between the removal of the organs and the final examination."

Various observers had investigated this subject previously to Ford and had obtained most conflicting results. Some had found the internal viscera invariably sterile; others, such as Zweifel, concluded that anaerobic organisms were habitually present. In a paper published in THE LANCET in 1904, Morgan,[2] from a series of careful bacteriological investigations on the viscera of healthy animals, came to the conclusion that normal organs did not contain pathogenic bacteria and that the presence of non-pathogenic organisms in the cultures is probably due to accidental contamination.

The tissues of the fœtus and of the newly born infant are usually considered to be free from micro-organisms. In children and adults bacteria are found in various parts of the human body. From these facts it is evident that organisms must enter the various tissues soon after birth and persist throughout life. It is these organisms which are the cause of so many of the acute and chronic infections to which we are liable; in fact, auto-infection is universally regarded to be a common source of infection in man.

Professor Welch many years ago drew attention to the presence of the staphylococcus epidermidis albus as a normal inhabitant of the human skin. This staphylococcus we now know to be closely allied to other staphylococci met with in infective processes in man, although Andrewes and Gordon[3] consider it to be a species perfectly distinct from the staphylococcus pyogenes group (albus, aureus, and citreus) and readily distinguishable by its biological characters. We know that these staphylococci are found in the skin after it has been rendered as clean as modern surgical methods permit, that they are of frequent occurrence in the healing of wounds, while, on the other hand, these organisms owing to their persistence in the tissues, are liable to give rise to infections of more or less severity.

Schenk and Lichtenstern,[4] in a paper published in 1901, refer to the bacteriological examination of 43 abdominal wounds. These observers included in the wounds threads of sterilised silk which they withdrew at various intervals and tested bacteriologically. They also examined pieces of skin removed at the commencement of the operation and pieces of fat removed at its termination. Their surgical technique included the use of alcohol and corrosive sublimate in the preparation both of the patient's skin and of the surgeon's hands. Of their 43 cases, 39 healed by first intention, and four suppurated slightly, but only seven cases, or 16 per cent., were found to be sterile, the staphylococcus albus being the predominant organism.

Mr. Sargent and I[5] carried out similar observations on the skin, tissues, and ligatures in connexion with aseptic wounds in the wards of St. Thomas's Hospital. Here antiseptics are not included in the surgical technique, and thus bacteriological investigation can be completed under the most favourable conditions. In these observations of 45 cases treated without chemicals the wound surface was sterile on only 26 occasions and in 15 instances the staphylococcus albus was cultivated. The skin cut from the edge of the wound at the conclusion of the operation was found to be sterile six times in the first 45 cases, while on 30 occasions the staphylococcus albus was found to be present. The suture, removed at intervals varying from 24 hours to six days after operation, was found to give a growth of the staphylococcus albus on 30 occasions out of a series of 45. The exudate at the time of the removal of the suture gave a growth of the staphylococcus albus on 18 occasions. There was only one case of suppuration in the whole of this series. We thus see that organisms belonging to the staphylococcic group are of frequent occurrence in wounds which heal without suppuration; their presence, however, but for bacteriological investigations would be unknown. It is more than probable that the existence of these organisms in normal tissues is an important source of suppurative inflammation in the healing of wounds.

It has also been shown that the staphylococcus albus is one of the most important organisms in peritoneal infections. It has been found to be frequently present in the blood clot in intraperitoneal hæmorrhage and also in the peritoneal cavity in various acute infections. It can be cultivated from the great omentum of normal animals and from the human omentum in cases in which the peritoneal cavity is apparently healthy.

A staphylococcus has been shown to be of frequent occurrence in malignant growths. This organism has been described as the micrococcus neoformans, and this name would suggest that it is an organism possessed of special specific properties. But Andrewes and Gordon[6] consider this micrococcus—at least, the culture which they investigated—to be the staphylococcus epidermidis albus, and Dunkley and I[7] about the same period referred to its identity with the staphylococcus albus. These observations are important

[1] W. W. Ford: The Bacteriology of Normal Organs, Journal of Hygiene, vol. i., 1901, p. 277.
[2] H. de R. Morgan: The Presence of Bacteria in the Organs of Healthy Animals, THE LANCET, July 2nd, 1904, p. 21.
[3] F. W. Andrewes and M. H. Gordon: The Biological Character o Staphylococci Pathogenic for Man, Local Government Board Report Appendix B., No. vii., 1907.
[4] Schenk and Lichtenstern: Zeitschrift für Heilkunde, vol. xxii., 1901.
[5] Leonard S. Dudgeon and P. W. G. Sargent: The Bacteriology of Aseptic Wounds, THE LANCET, Nov. 17th, 1906, p. 1335.
[6] F. W. Andrewes and M. H. Gordon: The Biological Character of Staphylococci Pathogenic for Man. Local Government Board Report, Appendix B., No. vii., 1907.
[7] Leonard S. Dudgeon and E. V. Dunkley.: The Micrococcus Neoformans, Journal of Hygiene, vol. vii., No. 1, January, 1907.

because they indicate that the usual channel for infection of malignant neoplasms is from bacteria which are normal inhabitants of our tissues—that is to say, auto-infection plays a more important part than infection from without.

In furunculosis the staphylococcus pyogenes aureus, as everyone is aware, is the usual infective organism—that is to say, this condition is an example of auto-infection. I have suggested elsewhere that osteomyelitis, an acute disease due in the very large majority of instances to the staphylococcus aureus, is another illustration of auto-infection.

Mr. S. G. Shattock, in a paper with Mr. W. H. Battle on a case of diffuse osteoma of the femur in reference to the excessive formation of callus which may take place in the repair of a fracture in tabetic patients and others, has suggested that "auto-bacterial infection of the injured parts leading to a chronic inflammation must be kept in mind—i.e., an inflammation arising from the action of micro-organisms already in the tissues, the action of which was held in check until the advent of the injury. And, apart from tabes, there is no doubt that a proper inflammatory process must be invoked to explain the exuberant formation of callus in certain cases."[8] This suggestion, coming from an authority of such vast experience as Mr. Shattock, is a further support of the views which are held throughout this lecture—that the presence of organisms in healthy tissues is of supreme importance, especially with regard to the question of auto-infection.

Besides the few illustrations which have been given of the presence of the staphylococci in normal tissues and their power of exciting for unknown reason acute and chronic infections, we also know that tissues, especially scar tissues, due to the action of these organisms, may at any subsequent period become the seat of a transient inflammation or even of suppuration. I have records of two cases of multiple osteomyelitis of long standing. In each instance although the wounds are now healed occasionally inflammatory or suppurative foci occur in the originally infected tissues or in proximity to the orginal wounds. The staphylococcus aureus can be cultivated when suppuration occurs and both cases readily respond to vaccine treatment. In the intervals the patients are in good health. Both cases certainly serve to illustrate the persistence of cocci in the tissues for indefinite periods without giving rise to ill-effects, except during intervals of reactivation.

Andrewes and Horder[9] have recently published interesting investigations concerning the bacteriology of endocarditis and certain other diseases. In their paper on a "Study of the Streptococci Pathogenic for Man" they refer to a streptococcus so characteristic of saliva, though it is also common in the intestine, that the term "streptococcus salivarius" may justly be applied to it. It is closely allied to the commonest of the intestinal forms, to which they have given the name of streptococcus fæcalis. The streptococcus salivarius, according to these investigators, is of considerable importance in human pathology. They have recorded it as pathogenic in 26 cases. They also refer to a much more pathogenic long chain form of the streptococcus salivarius which seems to have a special connexion with inflammation of the fauces and with scarlet fever. As this particular type of streptococcus occurs in sore throats other than scarlet fever and in the normal alimentary canal they have suggested the term of "streptococcus anginosus." Still further, a group of streptococci has been isolated by them from the human intestine and so characteristic of it that they have labelled it as the "streptococcus fæcalis." They investigated 21 cases of undoubted malignant endocarditis due to streptococci, and to these are added 3 cases published by Mervyn Gordon. Of these 24 cases, 11 were due to the group described by them as the streptococcus salivarius, 6 to the streptococcus anginosus, 4 to the streptococcus fæcalis, 1 to the pneumococcus, and 2 only to the streptococcus pyogenes. They refer to the overwhelming preponderance of the salivary and fæcal types in this condition. Many of the forms are absolutely identical in all their reactions with the commonest saprophytic streptococci of the mouth and gut, and the rest are closely related.

Whether it is correct to classify the streptococci in the manner suggested by Andrewes and Horder is very much open to question, but they have clearly shown that the streptococci met with in many of our common diseases may, as regards cultural and certain other properties, be indistinguishable from the streptococci normally present in the human body. Such results are in full accordance with what occurs in many of the acute and chronic infections due to organisms other than the streptococci.

The Pneumococcus.

This organism was first discovered as the result of the examination of the saliva of a normal person. Dr. Eyre[10] states that he has found it in the saliva in 18 per cent. of normal individuals. It is also commonly found in the normal nose and this organism can often be cultivated from the tonsillar crypts. Dr. Eyre states that the pneumococcus isolated from these sources is of low virulence, sometimes avirulent, at other times it shows a high degree of virulence. It would thus appear that in the vast majority of instances this organism enters the tissues of the body through the respiratory tract and that the cells of the upper air passages form the first line of defence, while the pulmonary tissue constitutes the second. Next to the respiratory system he considers that the alimentary tract is probably the most common channel of entrance.

The Gonococcus.

Recent investigations appear to show that this coccus may remain in the tissues for indefinite periods without apparently producing ill-effects. For various reasons its pathogenicity may be re-established. In one instance the passing of a large urethral sound on a man who had no urethral discharge and had not suffered from gonorrhœa for some considerable period gave rise to urethritis due to the gonococcus. Phagocytes in the urethral pus in this case were packed with gonococci.

The Diphtheria Bacillus.

A. *Experiments on the virulence of diphtheria bacilli found in the mouths of healthy "contacts."*—Dr. Graham-Smith,[11] in an extremely interesting article in the standard work on the "Bacteriology of Diphtheria," points out that the majority of observers consider that diphtheria bacilli recently isolated from clinical cases display considerable differences in their virulence towards guinea-pigs. Further, it has been constantly asserted that the diphtheria bacilli which persist in the tissues gradually lose their virulence, and in course of time become completely non-virulent to laboratory animals. He mentions that in the great majority of cases the bacilli found in the throats of persons who have come in contact with diphtheria patients, but show no signs of the disease, are fully virulent, though some are non-virulent. The virulent bacilli of the patients do not, therefore, seem to suffer a diminution in virulence by transference to healthy individuals.

Aaser, quoted by Dr. Graham-Smith, in an outbreak of diphtheria in a cavalry regiment examined 89 healthy persons. In 17 instances diphtheria bacilli were isolated and all were fully virulent. Bolton in 1896 examined 214 persons who had been more or less exposed to diphtheria and found virulent bacilli in the throats in 41·5 per cent. Dr. Graham-Smith, during an outbreak at Cambridge, isolated and tested the diphtheria bacilli found in the throats of 56 healthy persons who had come into more or less close contact with cases of diphtheria. Out of this number 38 had virulent diphtheria bacilli in their throats and 18 bacilli which failed to show any evidence of pathogenicity.

As Dr. Graham-Smith mentions, these records clearly show that in the majority of healthy persons who have diphtheria bacilli in their throats (which have been derived by contact from clinical cases) the organisms are fully virulent, and do not tend to lose their virulence when persisting in the tissues of a healthy individual without giving rise to any pathogenicity.

[8] S. G. Shattock and W. H. Battle: A Remarkable Case of Diffuse Cancellous Osteoma of the Femur following a Fracture, in which Similar Growths afterwards Developed in Connexion with other Bones, Proceedings of the Royal Society of Medicine, Pathological Section, Jan. 21st, 1908.

[9] F. W. Andrewes and T. J. Horder: A Study on the Streptococci Pathogenic for Man, THE LANCET, Sept. 15th (p. 708), 22nd (p. 775), and 9th (p. 852), 1906.

[10] J. W. H. Eyre: The Pyogenetic Activities of the Pneumococcus. Erasmus Wilson lecture, Royal College of Surgeons of England, THE LANCET, Feb. 22nd, 1908, p. 539.

[11] G. H. F. Nuttall and G. S. Graham-Smith: The Bacteriology of Diphtheria, Cambridge University Press, 1908.

B. Observations on the virulence of diphtheria bacilli persisting for long periods in the throats of infected persons.—There are certain experimental records which show that a general decrease in virulence of the diphtheria bacillus does occur by prolonged stay in the throats of infected persons, but on the other hand there is conclusive evidence forthcoming to prove that these bacilli may persist in the throat and nose for very long periods without showing any decrease in virulence. Dr. Graham-Smith refers to several authors to illustrate these points. Dowson, for example, observed fully virulent diphtheria bacilli in the noses of two children for a period of five months. Schäfer discovered virulent bacilli in the throat of a boy seven and a half months after an attack of tonsillitis. Sevestre and Méry observed two cases in which virulent organisms were present 49 and 38 days after separation of the diphtheritic membrane. Williams reported a case in which virulent bacilli persisted for 157 days. Professor R. T. Hewlett isolated from a boy's throat 22 weeks after an attack of diphtheria bacilli which in small doses killed guinea-pigs in 36 hours. Müller in 1897 observed fully virulent diphtheria bacilli in the mouth of a "contact" for two and a half months. Cobbett in 1901 isolated and examined for virulence the bacilli from the throat of a number of persons on several occasions until the disappearance of the organisms. Bacilli were isolated and found virulent in one case up to the thirtieth day, in another on the sixty-sixth day, and in two "contacts" the bacilli were found to be virulent in one up to the fifty-eighth day and in the other the eighty-second day. In 1901 Prip examined, cultivated, and tested the pathogenicity of the diphtheria bacilli from the time of the disappearance of the membrane in eight cases up to the period when the organisms could no longer be isolated. In one instance fully virulent bacilli were found 335 days from the commencement

These observations which have been referred to conclusively prove that diphtheria bacilli are capable of retaining their virulence for prolonged periods in the throats of infected persons. In a few instances they appear to have lost their virulence to some extent, but in the great majority of cases full virulence was noted up to the time of their final disappearance.

These records given by Dr. Graham-Smith are of great importance because they prove that diphtheria bacilli may persist in the tissues of apparently healthy people without giving rise to any abnormal condition of the throat, but yet in most instances retain their virulence.

Bacillus Proteus.

This group of bacteria is found most commonly in the urine and intestinal tract. In the former it may be the cause of bacilluria and may have been present for varying periods unknown to the patient. It may at any time and for some unknown reason give rise to acute infection of the urinary tract, but this is not, however, of very common occurrence. It is this group of organisms which persists in the urine for indefinite periods and gives rise to attacks of so-called alkaline cystitis. In one instance the organism was present in the urine without producing any symptoms—in fact, the abnormal condition of the urine was disregarded—but after removal of the uterus for fibromyomata the abdominal wound became infected with this organism and gave rise to a chronic gangrenous condition of the surrounding tissues which it is especially liable to do. It is known that in some cases of cerebral abscess the only organism which is cultivated from the pus may be one of the proteus group. This fact is of great interest because in some cases of chronic middle-ear disease the discharge will be found to show the presence of this bacillus in pure culture. The proteus group serves as an excellent illustration of the all-important fact referred to elsewhere in this lecture—namely, the persistence of an organism in the tissues for indefinite periods without giving rise to any symptoms, but occasionally acting as the cause of some acute illness.

Bacillus Coli.

This organism, as we know, is a normal inhabitant of the intestinal tract in man and animals. It may persist here without giving rise to any acute or chronic infection of which the patient is conscious. On the other hand, it is the most constant organism met with in the bacteriology of peritonitis,[12] especially in the commonest variety, that due to appendicitis. It persists in the appendix after the acute stage has subsided, and may after removal at the quiescent period give rise to acute diffuse peritonitis. It is owing to the active part this bacillus is known to play in peritonitis which has led to the practice by some surgeons of having cases of the kind vaccinated with this organism a few days previous to operation.

Perhaps the most interesting condition with which we are acquainted is infection of the urinary tract caused by this organism. We know that it is frequently met with without giving rise to any inflammatory condition and without any symptoms, but for some unknown reason it may produce various acute infections not sufficiently recognised even at the present day. I have notes of a case in which the bacillus coli was present in the urine although the patient and her medical adviser were unaware of any abnormal condition of the urine. At the sixth month of pregnancy she was taken ill with an acute disease associated with high temperature and rigors proved to be due to the bacillus coli which previously had been multiplying in the urine without exhibiting any evidence of pathogenicity. In other instances, although it may be present in such enormous numbers in the urine as to give rise to the term bacilluria, it may not occasion even a slight degree of pyrexia. In other cases the first indication of any acute illness may be an acute febrile disease clinically indistinguishable from typhoid fever and which can only be diagnosed by bacteriological methods. In those cases which I have met with of this character the presence of the bacillus coli was proved previously to the acute illness—that is, at a period when the patient was in apparently good health. Further, this organism which normally exists in our tissues appears to play a part sometimes of great importance in typhoid fever. It is known that in this disease it is frequently met with in the urine, giving rise to bacilluria and certain other conditions.

It is important to recognise that these organisms as a rule retain their pathogenicity for the lower animals quite apart from the source from which they have been isolated in man.

Bacillus Typhosus.

Most people are agreed at the present day that by the term "typhoid fever" we understand certain clinical phenomena which are due to infection with various micro-organisms belonging to the typhoid-coli group and not necessarily to the specific micro-organism, the typhoid bacillus. This fact serves to explain why acute diseases regarded as typhoid fever on their clinical manifestations have failed to give a positive typhoid agglutination reaction at any period of the disease, quite apart from those rare instances of true infection by means of the bacillus typhosus which also fail to give this reaction. Such an instance occurred in the case of a well-known medical man who directly infected himself with the typhoid bacillus and whose blood up to the time of his death failed to give a positive reaction. Still further, it is now recognised that we may have infection with the typhoid bacillus without any of the clinical manifestations of typhoid fever.

These facts have been specially emphasised in a most valuable paper recently contributed to the *Journal of the Royal Army Medical Corps* by Major J. C. B. Statham.[13] He says: "Before we can profitably discuss the question of typhoid or enteric etiology, it is necessary to clearly realise what these words mean both in their clinical and bacteriological senses. Typhoid means typhus-like and was used to represent the clinical picture of prolonged fever—abdominal symptoms, exhaustion, and mental apathy—often present in this disease. The word 'enteric' was introduced owing to the prevailing idea that intestinal lesions and certain symptoms were always present in typhoid Now these terms 'typhoid' and 'enteric' have the sanction of long usage and will stay in consequence, but unless we are careful this nomenclature is liable to lead us into diagnostic error and has possibly even helped to keep alive and spread endemic and epidemic typhoid." "15, even 10 years ago, it might have been confidently stated that in the bacillus typhosus of Eberth had been found the unique causal agent of the dangerous and widespread disease 'typhoid fever.' The knowledge of recent years has forced us to realise that there are quite a number of allied but distinct

[12] Leonard S. Dudgeon and P. W. G. Sargeant: The Bacteriology of Peritonitis. Constable, London, 1905.

[13] Major J. C. B. Statham: The Complex Nature of Typhoid Etiology and the Rôle Played by Animals and Man in the Spread of the Typhoid Group of Diseases. Journal of the Royal Army Medical Corps, October, 1908, No. 4, vol. ii.

species of bacteria, any one of which is capable of originating typhoidal disease—that, in fact, the etiology of this condition is as complex as its symptomatology." "Further, we now also know that this group of bacteria, while at one time originating a disease with all the clinical symptoms of typhoid fever, may at another cause pathological conditions utterly unlike it. Typhoid is, in fact, a group disease produced by a group of organisms." Major Statham refers to a table at the end of his paper, giving a list of five sub-groups of bacteria capable of originating disease in man indistinguishable from typhoid fever. First group, bacillus fæcalis alcaligenes; second group, bacillus typhosus; third group, bacillus paratyphosus A; fourth group, bacillus paratyphosus B; and fifth group, bacillus coli.

It is necessary to refer somewhat fully to these data which have been specially emphasised by Major Statham before speaking of the persistence of these various organisms in the tissues in man, the direct infection they may produce in their host, and the way in which they may set up endemic or epidemic areas of infection. Considerable interest has been given to the question of the so-called "typhoid carriers." I shall not limit in this communication the term "typhoid carrier" to the carrier of the typhoid bacillus, but to the group of organisms already referred to by Major Statham. The entire subject of typhoid infection is outside the scope of the present work, but infection due to the persistence of these organisms in the tissues of man for more or less lengthy periods is probably of greater importance than a similar condition occurring with other bacteria. We now know that the fæces of patients who have recovered from typhoid fever may be infective for months or even years, and it is usually regarded that this is due to infection of the gall-bladder.

While referring to the subject of cholelithiasis and its relation to typhoid bacilli, reference may be made to a paper published by Hartmann, quoted by Moynihan,[14] he examined the bile in 46 cases of cholelithiasis treated by operation. In 36 instances bacilli were present, of which by far the most common was the bacillus coli, but in no instance was the typhoid bacillus cultivated from the bile. Petersen, quoted in the same paper, gives the records of 50 operations for gall-stones. Bacteria were cultivated from the bile in 44 instances, but the typhoid bacillus was never found to be present. The bacillus coli was isolated on every occasion. I have examined the bile at the time of operation for cholelithiasis in some 20 instances, but the bacillus typhosus has only been obtained on one occasion, and the bacillus paratyphosus B once.

It has been estimated that typhoid bacilli may be isolated from the fæces of patients suffering from typhoid fever in from 25 to 30 per cent. of the cases in the first three weeks, from 10 to 15 per cent. in the next two months, 4 per cent. or 5 per cent. for the third month, and finally, according to the investigations of Kayser and Brion and others, that some 1·5 per cent. of the cases become regular typhoid carriers, while Lentz obtained such a high percentage as 4. Kayser collected a large number of individuals who had been two years convalescent from an attack of typhoid fever. Out of 101 cases three still showed the presence of the bacillus and were therefore chronic carriers. In fact, it appears justifiable to assert that about from 3 to 4 per cent. of typhoid convalescents become chronic carriers and of those who have been associated with typhoid cases a small proportion may excrete the bacillus temporarily. Still further it has been shown that those who never had any illness which has been regarded as typhoid fever may have bacilli of the typhoid-paratyphoid group in their fæces. Dr. J. C. G. Ledingham[15] in a most valuable paper read at the British Medical Association at Sheffield this year refers to some investigations which have been made by the Strassburg School on healthy persons living in the vicinity of, or in close contact with, typhoid cases. It has been shown that there are a certain number of temporary or acute carriers who excrete the typhoid bacillus in small numbers for a short time only. These temporary carriers do not appear to be really instances of chronic carriers who intermittently discharge the bacilli, nor do they appear to be cases of ambulatory typhoid, because experience seems somewhat opposed to either view. Scheller refers to a case of a female engaged in the milk trade who was excreting typhoid bacilli and appeared to constitute a focus of infection in the epidemic about to be referred to. All persons in any way associated with this milk trade were examined with the result that 17 other carriers were revealed. Some of these were passing the bacilli in the fæces only, others in the urine only, while in a certain proportion both the fæces and the urine were infected. The female originally discovered was removed from her work in the dairy. Instructions were given to the milkers to wash their hands in lysol, and those who were excreting the bacilli in the urine were treated with urotropin. One month from the time these methods were adopted all the carriers were re-examined bacteriologically with negative results, except in the case of the original female who still continued to pass the bacilli in large numbers. It has been stated that typhoid bacilli are present in the urine in some 30 to 40 per cent. of severe cases and in about 15 per cent. of all cases diagnosed as typhoid fever, and it has been shown that the bacilluria may last for some considerable period and be a serious source of infection.

One of the most interesting cases of a typhoid carrier has been recently recorded by Dr. G. Dean,[16] professor of pathology at Aberdeen. It occurred in the case of a medical man who 29 years before he was seen by Dr. Dean had had a severe attack of typhoid fever. This patient had had attacks of biliary colic for some considerable period sometimes associated with jaundice. The fæces were subjected to a bacteriological examination by Dr. Dean who investigated three samples, and in all of them the typhoid bacillus was demonstrated. The patient's serum gave an agglutination reaction in a concentration of 1:25 on a stock laboratory culture of the bacillus typhosus but would not react with greater dilutions. The patient's own bacillus, however, did not react with his serum, although it was agglutinated by immune horse serum. It may be mentioned that as far as it is known there was no case of infection originating from the patient whose case has just been referred to. The chief interest concerns the persistence of the typhoid bacillus in the tissues for so long a period—assuming that this bacillus entered at the time of the original infection—and did not produce any serious effect on the patient's health nor, as far as is known, cause dissemination of the disease. Attention, however, must be directed to an important observation on typhoid immunity recently made by Dr. Ledingham.[17] He has found that the serum of typhoid carriers shows a high opsonic content for the homologous strains of the bacillus typhosus.

Dr. Alexander Ledingham and Dr. J. C. G. Ledingham[18] have also referred to some interesting cases which occurred in a lunatic asylum in Scotland. The fæces of these patients were subjected to a bacteriological examination in 1907. From the main asylum the fæces of 57 female patients were examined. One of these patients was found to be passing typhoid bacilli in enormous numbers in the fæces. This patient had been in the asylum for 12 years and there was no record of her ever having had typhoid fever. Her serum agglutinated the typhoid bacilli up to a dilution of 1:200. As a case of typhoid fever had occurred in the small asylum the fæces of all the female patients, 34 in number, were systematically examined, and as a result a patient of 60 years of age was found to have typhoid bacilli in the fæces in considerable numbers. This patient had had an attack of typhoid fever in 1895. A third case was also discovered in a patient who had had typhoid fever in 1904. In this communication three patients are mentioned who were passing typhoid bacilli in their fæces, two of whom had had typhoid fever some years previously and one without ever having had any clinical evidence of this disease. These observers also draw attention to a point to which most writers on the subject have referred—namely, the much greater frequency of typhoid carriers among women and also that in women biliary calculi are of such common occurrence.

Levy and Kayser[19] have published a case of a typhoid carrier who had been isolated on Oct. 17th, 1905, and who died on Oct. 18th, 1906, after a short febrile attack. At the post-mortem examination the spleen was slightly enlarged

[14] B. G. A. Moynihan: Gall-stones and their Surgical Treatment, 1905.

[15] J. C. G. Ledingham: The Typhoid Carrier Problem, with Some Experiments on Immunity in Carriers, Brit. Med. Jour., Oct. 17th, 1908.

[16] George Dean: A Typhoid Carrier of 29 Years' Standing, Brit. Med. Jour., March 7th, 1908.

[17] J. C. G. Ledingham: loc. cit.

[18] Alexander Ledingham and J. C. G. Ledingham: Typhoid Carriers, Brit. Med. Jour., Jan. 4th, 1908.

[19] Levy and Kayser: Arbeiten aus dem Kaiserlichen Gesundheitsamte, Band xxv., p. 254, 1907.

and a gall-stone was present in the gall-bladder. Typhoid bacilli were isolated from the liver, spleen, bile, and interior of the gall-stone. Levy and Kayser consider that this case is an example of auto-infection—the bacillus persisting in the patient's gall-bladder, similarly to the numerous examples concerning other bacteria quoted throughout this lecture. It was practically living as a saprophyte until finally it gave rise to the fatal infection. There seems to be considerable evidence in favour of auto-infective attacks caused by the bacillus typhosus.

Cases of exceptional interest have recently been investigated by Huggenburger,[20] assistant at the Bacteriological Institute in Zürich. 13 cases of enteric fever had occurred in one family. In 1877 the mother had typhoid fever, in 1886 the father, in 1892 the son, in 1902 the daughter-in-law, and nine servants from 1899 to 1908. A bacteriological examination was made of the excreta of all members of the household. Virulent typhoid bacilli were isolated from the fæces of the mother who had had no symptoms since her illness in 1877. These cases, therefore, stretch over a period of 30 years. Although this organism had been present in her tissues for this considerable length of time, it had never given rise to any symptoms, but is regarded as the source of infection in the other members of the household.

In the Army Medical Report for 1907 some interesting investigations were made of 11 cases of typhoid fever occurring at Kasauli. It was found that the soldiers' cook had the bacillus typhosus in his fæces although he was in perfect health and had not been in hospital for eight years previously.

At the Central Research Laboratories at Kasauli the excreta from typhoid convalescents were repeatedly subjected to bacteriological examination and also those from a large number of healthy men. In three of the latter group typhoid bacilli were isolated, and in each instance these men had been nursing cases of enteric fever. In these laboratories it was pointed out that the excretion of typhoid bacilli in the fæces was markedly intermittent, intervals as long as 80 days occurring.[21]

In July, 1906, Gray and I published a case concerning a man who had the typhoid bacillus persisting in his tissues for four years and which probably gave rise to typhoid fever in a member of his family by direct infection. In July, 1902, he was in the wards of St. Thomas's Hospital for typhoid fever under the care of Dr. Hector W. G. Mackenzie. He was discharged on Sept. 10th, re-admitted on Sept. 18th for pain in the right femur, and left the hospital three weeks later quite well. On Oct. 18th, 1904, more than two years after the attack of typhoid fever, he was readmitted for tenderness over the right femur. On Nov. 6th an abscess was opened and a pure culture of the bacillus typhosus was obtained from the pus. He left the hospital on Dec. 21st, 1904, with the wound healed, but a few weeks later the scar gave way and pus was discharged through a sinus. In June, 1905, the patient came to the hospital for further treatment. In the same month his wife was admitted to St. Thomas's Hospital suffering from a severe attack of typhoid fever which proved fatal. The patient stated that his wife collected the soiled dressings after he dressed the wound and then burnt them. No one else had had typhoid fever in his house so far as he knew. In July, 1905, the pus was re-examined and the bacillus typhosus was isolated. The patient's serum failed to cause homologous agglutination, but a standard human typhoid serum and immune horse serum produced a high degree of agglutination with the patient's bacillus. The fact that the patient's serum fails to agglutinate the homologous bacillus in cases of this class has been noted by Dr. Dean and other observers. On Dec. 9th of the same year the bacillus typhosus was still present. In February, 1906, dead bone was removed by Mr. W. H. Battle and the bacillus typhosus was isolated from the depth of the wound. This was then washed out daily with a 1 per cent. solution of urotropin with the result that in a few days the bacillus typhosus could not be cultivated, and at the end of March a similar result was noted. In this case, therefore, we have the persistence of the typhoid bacillus in the tissues for four years without producing any greater effect than local necrosis of bone. If, as is probable, the patient's wife was infected by it, it shows that the organism was still highly virulent when transplanted in the tissues of a fresh host.

In 1908 a man was admitted to St. Thomas's Hospital suffering from cholelithiasis. He had served in the army and in India, but he was never known to have had typhoid fever. In 1900 the patient had a severe attack of colic but no further attack until six months before he came to St. Thomas's Hospital. In January, 1908, he gradually became jaundiced and was admitted to the hospital. The urine contained bile pigment, Cammidge's test was positive, and the fæces were dark in colour. His leucocytes numbered 2280 per cubic millimetre, but the differential count was normal. The serum gave a positive reaction on a standard laboratory culture of the bacillus typhosus with a dilution as high as 1 in 500 within 30 minutes at room temperature. A gall-stone was removed at the operation by Mr. H. H. Clutton from his gall-bladder, but the interior of the stone was found to be sterile. From his bile the bacillus typhosus was isolated in pure culture. The urine was sterile and the fæces on two examinations only failed to show the presence of the typhoid bacillus. Three weeks later the bile was re-examined and the bacillus typhosus was still found to be present. Several re-examinations were made at subsequent intervals but the bacillus typhosus was never isolated again, only the bacillus coli. This patient was treated with a typhoid vaccine which I made from the organism isolated from his bile. He received seven doses in all, commencing about a fortnight from the time of the operation.

In April, 1908, a man was admitted to St. Thomas's Hospital under the care of Mr. G. H. Makins suffering from jaundice. He had had jaundice for six weeks 30 years before, and "influenza" 20 years ago. The jaundice had lasted for one week. There were high pyrexia and rigors. At the operation a suppurative condition of a large thick-walled gall-bladder was found from which the bacillus paratyphosus B. was obtained in pure culture. The patient eventually died and at the post-mortem examination a suppurative cholangitis was found and carcinomatous disease of the gall-bladder. In this case it is impossible to say when the paratyphoid bacillus entered the body. He was never known to have had typhoid fever and the only illness which might have been mistaken for paratyphoid fever was "influenza," which occurred 20 years previously. The importance of finding one of the paratyphoid bacilli in this case is considerable. In the first instance, as already stated, the patient was never known to have had "typhoid fever," but he was admitted to a surgical ward for suppuration in the biliary passages caused by an organism which is usually associated with a febrile illness similar to clinical typhoid fever. The greatest danger likely to arise in a case of this kind is the occurrence of typhoid fever among the patients or nurses, although nothing of this nature developed from this bacillus. The point which is of greatest interest is whether the bacillus persisted in the patient's biliary passages as a saprophyte, became re-activated, and gave rise to suppuration in a carcinomatous growth, or had it only quite recently entered from the intestinal tract?

On March 27th 1908, a man was admitted under the care of Mr. Clutton in the wards of St. Thomas's Hospital who had been jaundiced for five weeks. There was no history of typhoid fever nor of any disease resembling it. At the operation gall-stones were present in the gall-bladder and a condition of suppurative cholecystitis. The interior of the gall-stones was found to be sterile, but from the pus in the gall-bladder a bacillus presenting all the morphological and cultural tests of the typhoid bacillus in every detail was isolated. The patient's serum agglutinated it, but positive typhoid serum produced no effect either when the organism was recently isolated or after it had been cultivated on artificial media for one week at room temperature. The patient's serum also failed to have any agglutinative action on a culture of the bacillus typhosus. In this case an organism was isolated from the tissues which, when subjected to a detailed cultural examination, was found to be indistinguishable from a typhoid bacillus, but yet cannot be classed as such owing to the completely negative results obtained with the serum tests.

During the last two years bacilli of the paratyphoid group have been isolated from three private patients whose urine I have examined. In two cases the organism was accompanied

[20] P. Fosch: Annalen, Congress of Hygiene, Berlin, 1907, vol. ii., p. 1119.

[21] On the Health of European Troops Serving in India, Army Medical Report for 1907, vol. xlix., p. 97.

by the presence of the bacillus coli; the patients were suffering from bacilluria and pyuria. They had all suffered from so-called "influenza," one two months previously, another one year, and the third case a few years previously, but in no instance were they known to have contracted typhoid fever. In two of the cases definite urinary symptoms had occurred soon after the attack of "influenza," which in each instance had been severe. No precaution had been taken previously to the isolation of the bacilli, and no case of infection had occurred as far as is known. In two instances the patients were treated with a vaccine prepared from their own organisms, with the result that the paratyphoid bacilli soon disappeared from the urine, although the colon bacilli persisted. In the third example the urine, which only gave a growth of the bacillus paratyphosus A., cleared up under the influence of urotropin and other urinary antiseptics. Although there was no absolute proof, it seems to me very probable that the disease which had been diagnosed as "influenza" was due to infection with the paratyphoid bacilli. The fact that urinary symptoms did not immediately follow the acute illness may be disregarded, because, as previously stated in the case of bacillus coli infections of the urinary tract, it is a matter of common knowledge that urinary infection is often present without the patient being aware of it.

The latent persistence of the typhoid-paratyphoid group of organisms in the tissues is of considerable importance from whatever aspect this subject is considered. That organisms which are known to be capable of giving rise to serious epidemics may practically live as saprophytes in our tissues, with or without occasional periods of activity, or be discharged from our bodies and thus be the source of acute infection in a fresh host, must be regarded as a reason for reconsidering our views concerning these infections, and the credit of this is greatly due to the School of Hygiene at Strassburg.

In conclusion, I must apologise for the numerous omissions in this account of the life of certain bacteria in our tissues. The whole subject is surrounded by difficulties which concern almost every detail in pathology and bacteriology. I have endeavoured to point out certain facts relating to bacteria living and multiplying in our tissues in contradistinction to the growth of these organisms outside the body.

FURTHER NOTES ON THE TREATMENT OF SYPHILIS BY ARYLARSONATES.

BY F. J. LAMBKIN, L.R.C.P. & S. IREL.,
COLONEL, R.A.M.C.

IN a paper which I read at the annual meeting of the British Medical Association at Sheffield in August last I recorded 74 cases of syphilis treated by arylarsonates at the Military Hospital, Rochester Row, between August, 1907, and July 1st, 1908, and I have now to chronicle a series of 34 further cases dealt with in a similar manner between July 1st and Oct. 1st, 1908, of which the following are the notes of some of the most interesting.

CASE 1.—Private ——, Irish Guards, was admitted on July 7th with an indurated phagedænic sore on the glans penis, profuse macular eruption on the body, inguinal and cervical glandular enlargements, nocturnal headaches, and anæmia with loss of body weight. Treatment consisted of 10 grains of soamin given intramuscularly on alternate days until he had received a total of 100 grains. He was discharged to duty on the 26th, all active signs of the disease having cleared up and the general health much improved; he had gained 6 pounds in weight whilst in hospital.

CASE 2.—Private ——, Coldstream Guards, was discharged from the Royal Herbert Hospital, Woolwich, on June 1st; he had been then under treatment for a "hard chancre," receiving 36 inunctions of mercury. He was admitted to Rochester Row on July 8th with an indurated sore on the penis, inguinal, cervical, and mastoid deep glandular enlargements, mucous patches on the tongue and mouth, and a roseolar rash on the body. His weight was 10 stones 7 pounds. He had the usual soamin course, receiving in all 100 grains by intramuscular injection. All active symptoms had disappeared by the 28th when he was discharged from hospital. His weight on discharge was 11 stones 1 pound.

CASE 3.—Sergeant ——, R.A.M.C. This was an old case of some months' standing. He had had only an irregular course of treatment, owing to having concealed his disease. He was admitted to Rochester Row on July 8th with severe ulceration of the inside of the cheeks, tongue, and throat, also orchitis of the left testicle. He was put on soamin at once and completed the usual course of 100 grains, at the end of which all ulceration had healed, the size of the testicle was decidedly smaller, and his general health had markedly improved. He had gained 5 pounds in weight whilst in hospital, from which he was discharged on the 25th. This case was remarkable from the fact that although no local applications were made to the ulcerations in the mouth and throat, they healed in a most remarkable manner under the soamin alone.

CASE 4.—Private ——, Scots Guards, was discharged from the Royal Herbert Hospital, Woolwich, on May 21st; he had been there under treatment 52 days for "soft chancre." No mercury was given. He was admitted to Rochester Row on July 7th with an indurated scar on the penis, the deep glands in the groins, back of the neck, and mastoid shotted, and a maculo-papular eruption scattered over the body and extremities; he suffered from nocturnal headaches, anæmia, and debility, and was much run down. He had albuminuria. He went through the usual course of soamin, under which all symptoms cleared up, the albumin disappeared, and his general health improved in a remarkable way. He was discharged to duty on July 29th. The albumin in this case, as was thought, was due to syphilis which was proved to be correct by the way it cleared up under treatment.

CASE 5.—Private ——, Coldstream Guards, was admitted on July 4th with a well-marked "Hunterian chancre on glans penis"; the deep glands in the groin and neck were enlarged. He had the full course of soamin. The induration disappeared and he was discharged on July 25th, and up to date has had no further development of the disease.

CASE 6.—Driver ——, A.S.C., was admitted on July 7th with a typical hard chancre at the root of the penis. There were no glandular swellings. He went through the full course of soamin. The induration disappeared and he was discharged to duty on the 23rd. Up to date he is quite free from any further developments.

CASE 7.—Private ——, 2nd Grenadier Guards, was admitted on July 30th with a hard phagedænic-looking chancre on the corona glans, enlarged and shotty deep inguinal and cervical glands, a roseolar rash on the body, nocturnal headaches, anæmia, and general debility. He had the full course of soamin, under which all active signs of the disease gave way, and he was discharged to duty on Sept. 3rd, having much improved in general health. He had gained 7 pounds whilst under treatment.

CASE 8.—Sergeant ——, South Lancashire Regiment, was transferred to Rochester Row from another hospital where he had been under treatment for "lupus." The trouble first showed itself in India in 1905, and consisted of at first a more or less superficial ulceration on, and in the vicinity of, the nose. In hospital this was diagnosed as "lupus," and it appears at first to have healed up under local treatment; however, he had many recurrences of the ulceration which eventually necessitated his being invalided home. In England the same state of affairs went on and he spent most of his time in hospital. He had no specific history and had had no specific treatment; the latter consisted of arsenic internally, local applications, scraping, and x ray exposures. At two different hospitals the tubercle bacillus was detected in smears from the nasal ulceration. On admission at Rochester Row on August 5th he was much run down in general condition, cachectic, and anæmic. The alæ of the nose had been destroyed by ulceration which was still proceeding and spreading to the upper lip. There was a deep serpiginous-looking ulcer at the top of the pharynx, and the soft palate had been almost entirely destroyed by previous ulceration. Smears from the ulceration were negative. The case looked decidedly suspicious of syphilis and it was decided to deal with it as such. Accordingly the patient was put on soamin injections, and on August 12th the following note was entered: "Has had four injections of soamin (40 grs.) and the ulceration both of the throat and nose has practically healed." This patient was discharged to his duty on August 30th, having had the usual full course of soamin,

his condition on discharge being that all ulcers had healed and the state of his general health had improved in a marvellous way (he had gained 8 pounds).

The rapid progress which was made in this case was extraordinary, more especially the way in which the ulcers healed without any local treatment. My reasons for considering this to be probably a specific case was the character of the throat ulceration, age of patient, &c.

CASE 9.—Private ——, Irish Guards, was admitted on August 8th with indurated sore on penis, enlarged inguinal and cervical glands, and maculo-papular eruption scattered over the trunk. He went through the usual course of soamin and was discharged to duty on the 31st, all active signs having disappeared. His general health had much improved (he had gained 5 pounds in weight).

CASE 10.—Private ——, Grenadier Guards, was discharged from the Royal Herbert Hospital, Woolwich, on June 26th, where he had been then under treatment for 30 days for syphilis and had received 25 inunctions of mercury. He was admitted to Rochester Row on August 10th with indurated scar on the penis, mucous patches on the inside of the cheeks and tongue, and ulceration of the throat, and he was covered with a bright roseolar rash. He went through the course of soamin (100 grains) and was discharged from hospital on Sept. 6th. After having had four injections all ulcers in the mouth had healed and on completing the full course his general health had much improved (he had gained 5 pounds in weight). This case was notable from the rapid manner in which the patches and ulcers healed without any local assistance.

CASE 11.—Lance-Corporal ——, A.S.C., was placed on the syphilis register at Woolwich on Feb. 17th, and was stated to have been suffering from a scar on the penis, shotty glands in the groin and neck, and roseolar rash on the body. He had received 19 mercurial inunctions and 12 mercurial injections of one of the soluble salts. He was admitted to Rochester Row on August 11th with condylomata and mucous patches on the penis, scrotum, and tongue. He was put on the course of soamin, which he completed and was discharged on Oct. 1st, all symptoms having disappeared. His health had much improved (he had gained 6 pounds in weight).

CASE 12.—Private ——, Cameron Highlanders, was admitted on August 17th with typical Hunterian chancre on the penis, inguinal and cervical glands, shotty ulceration of the throat, and roseolar rash on the body and the limbs. He completed a course of soamin and was discharged on Sept. 14th. The sore had quite healed, the induration had disappeared, as had also the rash and the other symptoms, and the general health was much improved.

CASE 13.—Private ——, Irish Guards, was admitted on August 27th. This was a neglected case. There was a sore under the prepuce and phimosis was present, necessitating circumcision, as well as a well-marked papular eruption over the trunk, the legs, and the arms. The deep inguinal and cervical glands were enlarged, and there was ulceration of the throat. A full course of soamin was completed, and when the patient was discharged from hospital all active symptoms had disappeared and his general health was excellent.

CASE 14.—Private ——, Scots Guards, was transferred to Rochester Row from another hospital where he was reported to have been doing badly. His condition on admission was generally bad; he was much debilitated and run down. The deep inguinal and cervical glands were enlarged and shotty; the inside of the cheeks, the tongue, and the throat were badly ulcerated; and there was a papulo-pustular eruption on the back and the flanks. The patient has completed a full course of soamin and has done remarkably well. All the ulcers healed rapidly and the rash has practically disappeared.

CASE 15.—The patient, aged 55 years, contracted disease 25 years ago when he had all the classical signs of the disease in its primary and secondary stages. He went through various spasmodic courses of specific treatment at various periods but never had a thorough course. For many years he was quite free from any symptoms until five years ago, when his tongue became sore and leucoplakia formed on it; at the same time an ulcer appeared in the middle of the lower lip; both these lesions have resisted all treatment, including mercury and iodide of potassium internally over long periods. The patient came under my notice on August 31st. The tongue was furrowed from old ulceration and was marked with leucoplakia, which was well raised in places; there was an ulcer on the lower lip scabbed over; this had been present for the past five years and had been diagnosed as epithelioma on more than one occasion. There was no enlargement of the lymphatics in the neighbourhood. The patient was put on soamin injections, of which he had a full course. After the sixth injection (60 grains) I noted: "Ulcer on lip looking decidedly healthier, general health much improved." After the tenth injection: "Ulcer almost entirely healed, tongue improved, mucous membrane of mouth in much better condition." Further treatment for the present was stopped. The rapid improvement was certainly a surprise and the way in which this old-standing case responded to the arylarsonates was remarkable. After the eighth injection the patient showed signs of toxic effects—i.e., noises in the head and a slight attack of colic; these passed off and he completed his course—in fact, he had a total of 110 grains.

CASE 16.—The patient, aged 54 years, contracted syphilis 30 years ago, when he went through three courses of treatment at Aix-la-Chapelle in two years. There was no further return of the disease until two years ago, when after a severe attack of influenza his tongue became very sore and eventually it ulcerated, leucoplakia also appearing on it. At first the condition was diagnosed as cancer, but eventually syphilis was substituted for the latter and he was treated accordingly. I saw him first on August 25th. The tongue was much thickened and ulcerated both on the dorsum and at the sides, and it was covered with leucoplakia; the inside of the cheeks also was thickened and ulcerated. The gums were in a dreadful state of ulceration the result of excess of mercury. The patient had actually been taking a mixture containing solution of perchloride of mercury and iodide of potassium three times a day for eight months continuously before coming to me. He complained of cramps, especially at night time, in the calves of both legs, and also "pins and needles" in the feet and the toes. Ankle clonus was normal. The patellar reflex was diminished in the right leg and normal in the left. The pupils were normal, the general health much below par, and there was loss of sleep and of appetite. The patient went through a full course of soamin (100 grains), at the end of which the tongue and the mucous membrane of the mouth had much improved, whilst the general health had remarkably done so. Appetite and sleep returned. After the eighth injection the patient complained of noises in the head and a peculiar feeling in both legs.

Notes on Cases Treated with Arsacetin.

CASE 17.—Private —— was admitted to hospital on Sept. 25th. On admission he had two small, hard, roundish lumps under the skin of the prepuce; there was no ulceration, and he said that the skin had never been broken, but that was doubtful. He stated that he had had the lumps for the last six months and that he noticed a rash upon him three days before admission. The rash was roseolar in type and was most marked on the chest and the abdomen. The inguinal glands were not enlarged, but those in the neck were hard and shotty. The throat was a little congested. The patient's weight on admission was 12 stones 7 pounds. Oct. 7th: The patient had had four injections of arsacetin (28 grains). The rash was fading and in some places had quite disappeared. The throat was much better and the two small indurated lumps in the prepuce were softer. The patient's weight was 12 stones 12 pounds—a gain of 5 pounds. Oct. 14th: The rash had quite disappeared, the throat was better. Weight 12 stones 13 pounds. Oct. 21st: The patient had had 70 grains of arsacetin. All active symptoms had disappeared and he was apparently in excellent health and was accordingly discharged to duty.

CASE 18.—Private ——, Irish Guards. Admitted to hospital on Sept. 30th with a well-marked papular eruption all over the body, the chest, the abdomen, the arms, and the legs. The papules were large and some were lenticular and well raised and a few were scaly. The scalp was more or less covered with a papular, and in some places a pustular, eruption and there were some pustules at the junction of the nose and forehead and some on the lower lip. The patient was in hospital on August 22nd with a small hard suspicious sore on the frænum and he left the hospital on Sept. 1st. The hair was falling out and the patient complained of severe frontal headache at night time.

Both inguinal and cervical glands were enlarged and there were condylomata. Weight on admission, 11 stones 10 pounds. Oct. 7th: The patients had had three injections of arsacetin (21 grains). The rash showed undoubted signs of improvement, the papules were smaller and less bright in colour, and there was a very marked general improvement. He looked much better, the headache had gone, and the pustules on the scalp were drying up. Oct. 14th: The patient had had seven injections (49 grains). The improvement was most marked, the rash had almost disappeared, the scalp was quite normal, and all signs of condyloma had gone. Oct. 21st: 70 grains of arsacetin had been injected. All symptoms had subsided and the patient's general health and appearance had improved out of all recognition and he was discharged to duty. One could hardly have looked for such a rapid recovery in a case which on admission threatened to be a very severe one and I have seldom seen a better result.

CASE 19.—Private ——, Irish Guards, was admitted to hospital on August 28th. He then had a large ulcerating sore involving the frænum, the glans, and part of the prepuce. The base of the ulcer was indurated. He also had a bright red roseolar eruption on the chest, the abdomen, and the back, and a few scattered papules. There was a large indurated gland in the left groin. The patient's weight was 12 stones. Oct. 7th: The patient had had four injections of arsacetin (28 grains). The rash showed signs of fading and the patient looked better. The sore had healed. Weight, 12 stones 3 pounds. Oct. 14th: The patient had had seven injections (49 grains). There was a very marked improvement, the rash had quite disappeared in some places, and where it was still present it was much less bright in colour. Weight, 12 stones 4 pounds—a gain of four pounds. Oct. 21st.: The patient completed a course of arsacetin of which he had had 70 grains. All active symptoms had disappeared and his general health and appearance had improved much—in fact, his health was excellent.

CASE 20.—Private ——, Irish Guards, was admitted on Sept. 23rd suffering from phimosis, œdema of the prepuce, and marked induration at the tip of the prepuce. There was a well-marked maculo-papular eruption on the chest, the abdomen, and the back. The lymphatic glands of the groin were somewhat enlarged, as also were those of the neck. The patient's weight was 10 stones 4 pounds. The patient was circumcised on Sept. 30th. The prepuce was found to be very hard and indurated, especially the lower part. Oct. 7th: The patient had had three injections (21 grains). The rash was fading and the patient had gained three pounds in weight, which now was 10 stones 7 pounds. Oct. 14th: The rash had almost completely gone except for a few yellowish spots in the flank. The circumcision was healing up and the lymphatic glands were less indurated. Oct. 21st: 70 grains of arsacetin had been injected and all the above symptoms had gone. The patient's health and appearance were excellent and he was discharged to duty.

CASE 21.—Private ——, 1st Scots Guards, was admitted to hospital on Oct. 9th. There was no history of a primary sore and there was no sign of one but he had been in hospital in September last for balanitis. He now had a well-marked pigmented eruption on the lower part of the abdomen, the thighs, the buttocks, and the legs. The rash had probably been on the body for some time. The tonsils and the throat were congested and there was a tendency to mucous patches. Both the inguinal and cervical glands were indurated. Weight on admission, 11 stones 2 pounds. Oct. 14th: The patient had had three injections (21 grains). The rash was clearing off considerably except for a few pigmented spots on the thighs. Weight, 11 stones 4 pounds, a gain of two pounds. The throat was much better. Oct. 21st: Six injections of arsacetin had been administered (42 grains). The rash had gone, the throat had healed, and the general appearance was good.

The Preparations Used.

Soamin.—Of the preparations used soamin was employed in 26 of the above cases. As already described in the paper quoted above, soamin is a para-amino-phenyl-arsonate having the formula $C_6H_4NH_2ASO(OH)(ONa)5H_2O$—in fact, it approximates very closely to the original preparation atoxyl. It has the advantage over the latter in that its purity can be assured. As will be seen, all these 26 cases had their full course of soamin which consists of a total of 100 grains and in only two were there the slightest bad effects (Cases 15 and 16); both as recorded showed slight toxic symptoms after they had had their eighth injection. The fact that the patients concerned were over 50 years of age might possibly account for the effects.

Arsacetin.—Eight of the series were treated with the arylarsonate known as "arsacetin" recommended by Ehrlich, as also by Professor Neisser; it is a sodium acetyl-phenyl-arsonate. ($C_6H_4NHCH_2CO$). AsOOHONa = arsacetin. Professor Neisser says of it: "1. The preparation is certainly far less toxic than the old atoxyl, both healthy and diseased animals tolerating very much larger doses of arsacetin than of atoxyl. 2. As far as it is possible to make any comparison as to the remedial action on syphilis he thinks there is no doubt but that everything favours arsacetin. 3. No decomposition of any kind in the solution, even when stored for a long time, could be detected, nor does boiling daily alter the solutions in any respect." At Rochester Row in the above cases I have been giving 40 minims of a 15 per cent. solution every second day, this is equal to seven grains of arsacetin. The preparation can be employed in either a 10 per cent. or a 15 per cent. solution. The latter has the advantage that it does not require the injection of so large a quantity of fluid and consequently the temporary painfulness in the locality of the injection is slighter; there is, however, this disadvantage that the 15 per cent. solution deposits the salt when cold, so that before use it is necessary to heat it to bring it into solution again.

Comparison of the salts.—It is hard to give a definite opinion, at present, as to which of these two arylarsonate preparations is the most efficient owing to one's limited experience as regards arsacetin; at the same time one cannot help being very much struck by the remarkable results one has seen following its use in the cases treated, and it certainly possesses undoubted advantages over soamin, in that its solutions do not decompose; hence it is unnecessary to make them up fresh daily as is the case with soamin.

Conclusion.—The good results obtained from the use of arylarsonates in this further series of cases go to strengthen one's conviction that in them we possess a second specific for syphilis, at least from a preventive and remedial point of view. As regards the former I have at present ten cases under observation which were originally admitted with what were in my judgment undoubted primary lesions of syphilis, and in seven of which the spirochæta pallida was demonstrated; these cases underwent courses of soamin, varying from between 60 and 100 grains, and have now been all closely observed every week during the last ten months without developing any further sign of syphilis. From the remedial point of view the good results of these 34 cases speak for it. But as a curative agent it is beyond us at present to give a positive answer to this all-important question; time and clinical experience alone will enable us to do so; nor can this be done until it is proved without doubt that arylarsonates are capable of permanently expelling the spirochæta pallida from the system, as indicated by the patient being rendered capable of reinfection. Neisser's successful experiments on apes from this point of view justify us in hoping for this end. Until the question as to the capability of arylarsonates bringing about a permanent cure is fully established (which it is hoped Wassermann's serum test will be able to tell us for certain), I consider that after a course of arylarsonates mercury should be given, and for this purpose, after my patients have completed a course of arylarsonates, I put them on intramuscular injections of metallic mercury.

Military Hospital, Rochester-row.

MEDICAL SICKNESS AND ACCIDENT SOCIETY.—A meeting of this society was held on Nov. 20th, Dr. F. de Havilland Hall being in the chair. The list of sickness claims examined by the committee was a long one, and as is usual at this time of the year showed signs of rapidly growing. On the whole, however, the sickness business of the autumn has been favourable to the society and has worked off a good proportion of the loss that was sustained in the spring. The list of "chronics," that is, of permanently disabled members, continues to grow and more than £4000 a year are now being disbursed in respect of them. A large special reserve will be made for these at the approaching valuation of the society's business. Prospectuses and all further particulars can be had on application to Mr. F. Addiscott, secretary, Medical Sickness and Accident Society, 33, Chancery-lane, London, W.C.

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THE COMMON COLD: ITS PATHOLOGY AND TREATMENT,

WITH ESPECIAL REFERENCE TO VACCINE THERAPY.[1]

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(Concluded from p. 1594.)

VI.—NATURAL CURE OF COLDS.

THE most striking clinical feature of an acute attack of nasal catarrh is perhaps the excessive mucous secretion, and the question arises as to the causation and function of this.

Causation of increased mucous secretion.—The effect of the application to the nasal mucosa of such chemical irritants as strong ammonia and acrolein is so marked as to favour the view that the increased flow is merely a reflex response to the toxins formed by the infecting organism. It would appear, however, from the following experiments that this is not so. Of the several organisms capable of producing a cold Friedländer's bacillus is the one which incites the most copious secretion. Accordingly a tube of broth was inseminated with a virulent culture of Friedländer's bacillus and incubated at 37° C. for nine days, when the formation of any toxin is, as a rule, at a maximum. The culture was then filtered rapidly through a sterilised porous candle. Some of the clear sterile filtrate was then swabbed over my nasal mucosa, but, so far from an increase, a marked diminution in the amount of mucous secretion was produced for the next few hours.

The next experiment seems equally convincing, as despite the observation of a French observer it seems to show that the bacillus of Friedländer does not produce extracellular toxin, or at all events only in very minute quantity.

Experiment.—20 cubic centimetres of broth were inseminated with a virulent culture and incubated at 37° C. for nine days; rapid filtration through porous candles was carried out and the sterility of the filtrate was ascertained; 10 cubic centimetres of this filtrate were then injected intraperitoneally into a guinea-pig and 5 cubic centimetres into a rat. No rise of temperature or malaise could be detected and repetition of the experiment gave a like result.

Again, if staphylococci and Friedländer's bacillus be planted into the same broth and incubated, the latter will soon kill off the former even if any acid be neutralised with powdered marble as quickly as it is formed by the bacilli. The following table shows this.

TABLE VII.

Period of incubation.	Bacilli / Staphylococci.	Bacilli / Staphylococci.
(1) Prior to incubation.	$\frac{1}{1}$	—
8 hours at 37° C.	$\frac{1}{2^{5}}$	—
24 hours at 37° C.	$\frac{1}{3^{5}0}$	—
(2) Prior to incubation.	$\frac{1}{1^{5}0}$	$\frac{1}{1^{5}0}$
5 hours at 37° C.	$\frac{1}{2}$	$\frac{1}{2}$
12 hours at 37° C.	$\frac{1}{1^{0}0}$	$\frac{1}{1^{0}0}$

Column 2 = acid not neutralised with marble. Column 3 = acid neutralised with marble.

If this lethal action of the bacillus pneumoniæ upon staphylococci be due to extracellular toxin formation, then a similar result should have been obtained in the following experiments, but it was not.

Two tubes of broth were inseminated with equal numbers of bacilli, powdered marble being added to one of them to neutralise any acid formed. After four days' incubation at body heat rapid filtration was performed through sterilised porous candles. Six cubic centimetres of each filtrate were obtained, of which half in each case was heated to 95° C. for 30 minutes to destroy any toxin present. To each of these four tubes three cubic centimetres of broth were added and equal numbers of staphylococci were introduced. After incubation at 37° C. for four and for eight hours the organisms in equal volumes of the several cultures were counted, with the following result:—

Period of incubation.	+A.+T.	+A.−T.	−A.+T.	−A.−T.
4 hours	280	330	260	380
8 ,, ...	490	510	520	560

A. = acid. T. = toxin.

The differences are so slight as to be within the errors of experiment, and strong confirmation is afforded of the view that the bacillus of Friedländer does not form any extracellular toxin. It would thus appear that the increased mucous secretion is not due to the effects of extracellular toxin formed by the infecting bacilli, but to the mechanical irritation set up by the presence of these foreign bodies in the respiratory tract.

Action of nasal mucus.—Wurtz, Lermoyez, and others have expressed the view that the secretions of the various mucous and serous glands, such as those of the eye, the nose, the uterus, and the vagina, possess bactericidal properties. StClair Thomson and Hewlett[2] studied the action of mucus upon anthrax spores and found no proof of bactericidal action. Klemperer and Park and Wright[3] agreed that the nasal secretion has no bactericidal action. In view of this difference of opinion and the fact that an admirable opportunity presented itself of collecting a large quantity of nasal secretion the following experiment was decided on. From a case of acute nasal catarrh due to the bacillus of Friedländer nasal secretion was being poured out at the rate of from 15 to 20 cubic centimetres per hour. 10 cubic centimetres were collected without difficulty and were at once filtered through a sterile porous candle; 6·7 cubic centimetres of clear slightly alkaline fluid were thus obtained; four sterile test-tubes were taken. Into Tube *a* were placed 3·5 cubic centimetres of filtered nasal mucus; into Tube *b* 3·5 cubic centimetres of a 0·1 per cent. salt solution; into Tube *c* 3·2 cubic centimetres of filtered nasal mucus; and into Tube *d* 3·2 cubic centimetres of a 0·1 per cent. salt solution. Emulsions of 18-hour-old cultures of the bacillus of Friedländer and of staphylococcus aureus were then prepared. Tubes *a* and *b* were then inseminated with equal volumes of the emulsion of Friedländer's bacillus and Tubes *c* and *d* with equal volumes of the staphylococcal emulsions. By means of a sterile platinum loop equal amounts of the several mixtures

TABLE VIII.

A.—For Bacillus of Friedländer, Tubes a and b.

Volumes withdrawn—	Tube *a*, nasal mucus. Number of colonies.	Tube *b*, salt solution. Number of colonies.
After ½ hour.	902	944
,, 1 ,,	520	136
,, 2 hours.	800	1
,, 4 ,,	Over 100,000	11,360
,, 12 ,,	Uncountable.	Hundreds of thousands.
,, 24 ,,	,,	Uncountable but not so numerous as in Tube *a*.

B.—For Staphylococcus Aureus, Tubes c and d.

Volumes withdrawn—	Tube *c*, nasal mucus. Number of colonies.	Tube *d*, salt solution. Number of colonies.
On mixing.	1336	1896
After ½ hour.	1176	1368
,, 1 ,,	1064	2808
After 2 hours.	1880	2552
,, 4 ,,	908?	1320?
,, 8 ,,	9376	4112
,, 12 ,,	Uncountable.	Hundreds of thousands.

[1] A thesis accepted for the M.D. degree (Branch II.), University of London.

[2] THE LANCET, Jan. 11th, 1896, p. 86.

[3] Journal of Laryngology, London, 1898, vol. x., p. 247.

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were withdrawn and introduced into equal volumes of melted agar and plates poured; after 24 hours' incubation at 37° C. the colonies which had developed were counted and thus the numbers of organisms present in equal volumes of Tubes *a* and *b* and in equal volumes in Tubes *c* and *d* ascertained. The several tubes were then incubated at 37° C. and by means of the loop equal volumes were withdrawn at the same intervals, plates made, and colonies counted as before. The results are set out in Table VIII.

It is very evident that not only do the organisms die off more slowly in the first few hours in the nasal mucus than they do in the salt solution but also that after multiplication has begun they also increase more rapidly in the mucus than in the salt solution, conclusive evidence that not only is nasal mucus neither bactericidal nor inhibitory but also that it is actively nutrient. The obvious inference therefore is that the rôle of nasal mucus is purely a mechanical one to wash away the rapidly growing organisms—its action therefore is exactly that which Eyre has demonstrated that of the lacrymal secretion to be.

Site of formation of opsonins.—Wright, Bulloch, and others are agreed that opsonins are not elaborated in the blood and probably not in the blood-forming organs. That they are elaborated in the muscles and subcutaneous tissues is rendered probable by the following experiments which show that the opsonic index of muscle plasma to various organisms is considerably higher than that of the blood plasma. A human leg was obtained immediately after amputation and perfused through the popliteal artery with normal saline solution until this returned quite clear through the veins. The muscles were then dissected out, dried with filter paper, minced, cooled in an ice chest, and the muscle plasma extracted in a press. The very earliest portion was rejected as being obviously diluted with the saline solution used in the perfusion. The latter portions were collected and the index towards bacillus tuberculosis, bacillus of Friedländer, and staphylococcus albus was compared with that of the patient's blood serum. The results obtained are set forth in the following table:—

TABLE IX.

Experiment 1.
Bacillus tuberculosis.

Muscle plasma.	Human blood serum.
115 in 100 polymorphonuclear cells.	84 in 100 polymorphonuclear cells.

Index = 1·4.

Experiment 2.
Bacillus of Friedländer.

Muscle plasma.	Human blood serum.
112 in 100 polymorphonuclear cells.	90 in 100 polymorphonuclear cells.

Index = 1·24.

Experiment 3.
Staphylococcus albus.

Muscle plasma.	Human blood serum.
427 in 50 polymorphonuclear cells.	324 in 50 polymorphonuclear cells.

Index = 1·3.

Some slight allowance must also be made for the inevitable admixture of the muscle plasma with the saline solution. This only accentuates the difference, marked as it already is. It would thus appear that the muscle tissues contain a fluid with higher opsonic power than the blood plasma and may therefore be a site of opsonic formation. These results were confirmed by comparison of the opsonic powers of the muscle plasma and blood serum of animals towards various organisms.

These experiments render the view probable that when a vaccine is injected subcutaneously the opsonin is elaborated in the immediate neighbourhood of the site of injection and thence finds its way into the general circulation. Assuming, then, the accuracy of these observations upon the local formation of opsonins and the action of nasal mucus the processes of infection and the reactions thereto may be explained as follows.

Tissue metabolism and so opsonin formation go hand-in-hand with blood-supply. The nose is infected by organisms in a state of dormant activity. A draught striking, say, the back of the neck affects the vaso-motor nerves, causing constriction of the vessels of the nasal mucosa, and a resultant diminution in tissue metabolism and opsonin formation. The organisms are thereby lighted up into activity and a cold begins. The protective mechanism of the body is now called into play, vaso-constriction is followed by vaso-dilatation, with consequent hyperæmia and increase in tissue metabolism. The result of this is rise in the local formation of opsonin and increased activity of the mucous glands, with consequent destruction and washing away of the infecting organisms. This process may be complete, in which case the cold rapidly gets well, or it may prove insufficient, in which case the cold progresses to a subacute or chronic state only to get well when the organisms have lost their virulence or been gradually destroyed.

VII.—TREATMENT.

(*a*) *Of acute colds.*—The best form of treatment is, as always, prevention—and much can be done in this direction both by the sufferer and by others; by the former by clearly realising that a cold carelessly communicated to others may prove a death-blow. It therefore behoves him to regard himself as an infectious case and take above all every possible care not to come into contact unnecessarily with anyone to whom a cold may be a serious matter, such as an old infirm person or anyone infected by chronic bronchitis or advanced heart disease. Infected handkerchiefs should be sterilised as soon as possible; this can easily be done by occasionally sprinkling them with a drop or two of formalin carried in a small bottle; and on no account should a sneeze be allowed to disperse organisms throughout a room but should be received into a handkerchief. It is his duty to avoid crowded rooms and public meetings, for his own sake as well as that of others, whenever possible; he should remain in his own room during the acute coryzal stage and adopt efficient means of cure.

The non-sufferer can do much to ward off attacks; in fact, I would go so far as to say that no one has any business to catch a cold except through sheer mischance. Due attention is paid daily to the toilet of the surface of the body, and even to that of the teeth; surely the nose should receive equal attention, especially in the atmosphere of crowded cities? To this end the nose should be douched each night at bed-time and if agreeable each morning on rising with a weak warm alkaline antiseptic solution; nothing is better for this purpose than glycothymoline or thymoglycin one part to three or four parts of warm water. This procedure is very efficient: numerous cases which formerly were perpetually catching colds have become almost immune to their attacks by the adoption of this simple precaution. At the first symptom of an approaching cold the nose should be douched and the throat gargled. Should these precautions have been omitted or have proved inefficacious and a cold have matured other means of combat must be employed.

In practice, my first procedure is to take cultivations from the nose upon blood serum and blood agar for next day's identification. It is through the vaso-motor system that the disease can in the early stages be best attacked. Accordingly the feet should be placed in hot mustard and water and the patient put to bed in a warm but thoroughly well ventilated room.

If nasal douches be employed in the acute coryzal stage—and I do not think they should—they must be used with great care to prevent increasing the chances of extension to the Eustachian tube and accessory sinuses; the simple device of placing the palm of the hand firmly over the external auditory meatus when expelling the mucus from the nostril will often suffice to prevent the dilatation of the corresponding Eustachian tube, and the consequent admission of infected material. In many subjects the tube of one side appears to be much more liable to infection than that of the other.

The diet, and especially the proteid, should be restricted, and particular attention paid to the bowels and kidneys; all cases of cold are constipated, and this must be carefully avoided. The excessive nasal discharge can be controlled by promoting free action of the kidneys and skin and can be much diminished by restricting the fluids taken. Whether this is strictly advisable, however, is rather doubtful in view of the mechanical action of the mucus upon the infecting organisms.

As regards drug treatment, this is largely symptomatic, but much reliance has been placed on solutions of quinine sulphate as a means of prevention or of shortening an attack; consideration of its actions will show that this is based probably upon analogy of its specific action in malaria.

That it is a powerful antiseptic is admitted, but a solution of at least 1 in 500 is required before an infecting organism can be destroyed. A few grains daily by the mouth are not likely to reach the nasal mucosa; local application in the form of insufflations proves much more efficacious and will control the excessive discharge. Upon the stomach in such doses as are usually taken in colds it exerts a disturbing influence, while the tinnitus of the ears and headache which it may produce even when combined with hydrobromic acid, are distinctly undesirable results. In the blood it circulates as the chloride, diminishing metabolism by increasing the stability of the oxyhæmoglobin and prejudicially affecting the white blood corpuscles, the phagocytes of the body. Its only utility is as an antipyretic, and fever in these cases is usually conspicuous by its absence. In brief, a more useless drug theoretically could hardly be employed. In practice, these prejudicial effects are masked and even overcome by judicious combination with ammonia, one of the most powerful of stimulators of the heart and respiration. By the influence of this drug upon the vasomotor system a slight balance is perhaps left upon the credit side. It must, however, be admitted that many eminent physicians hold a very different view of the utility of quinine.

The most useful drugs in shortening an attack are perhaps oil of cinnamon and oil of eucalyptus, but these must be used and not dallied with, the doses in the pharmacopœia are much too small. Both these drugs are antiseptic in action and are excreted by all the mucous membranes; they stimulate the heart both reflexly and directly and dilate the blood vessels, thus exerting valuable action upon the vasomotor system; in their action upon the bronchial tubes they are antispasmodic. The first of these drugs should be given in 20-minim doses in milk for each of the first three hours, then every other hour in 15-minim doses for two doses, then three or four hourly in 10-minim doses; if the patient can at once take to bed cure is usually complete in from 36 to 48 hours; in fact, I have seen some remarkable cures of very severe colds in even less time than this and have never seen any ill effects. Oil of eucalyptus requires more care in its use and a pure oil alone should be employed. It is not so pleasant to take as oil of cinnamon and is distinctly less agreeable to those around. To obtain the best results local application should be combined with administration by the mouth. This is done by the addition of five or six drops to boiling water and inhalation of the medicated steam through any suitable inhaler. By the mouth from 10 to 15 minims should be taken every three or four hours upon sugar; oil of the Pinus pumilionis can be also employed in an exactly similar way.

To assist the action of the skin and kidneys the following prescription by Burney Yeo is very useful at bed-time: tct. opii, ♏x.; vin. ipecac., ♏v.; sp. aether. nit., ℥i; liq. ammon. acet., ℥iij; aq. camp. ad ℥iss. Misce et fiat haustus, hora somni sumendus.

These measures may suffice to cut short an attack but should they not the subsequent course taken by the cold will depend upon the organism at work. A correct differential diagnosis will enable one to anticipate subsequent events and provide against them. Should the bacillus septus be at work no complications are as a rule to be anticipated and treatment of the early stages is chiefly symptomatic. Should the sore throat prove troublesome a gargle and spraying by means of an atomiser of the following composition is useful: pot. chlorat, gr. x.; liq. ferri perchlor., ♏ xv.; glycerini, ♏ xxx.; aq. ad ℥ i. Misce et fiat gargarisma; quartis horis utenda. In my experience this mixture ceases to be of benefit after about 24 hours and a change to the following is advisable: pot. chlorat, gr. x.; A. hydrochlor. dil., ♏ x.; syrup, ℥ i.; aq. ad ℥ i. M. et fiat gargarisma; quartis horis utenda. Should the fourth stage, that of thick tenacious mucus secretion, prove troublesome, intranasal douches will afford considerable relief. If the micrococcus catarrhalis be responsible for the attack the symptoms and complications may be much more severe. Headache, facial neuralgia, and cough may cause considerable discomfort; for the last of these I used to prescribe glycoheroin, but it did not prove very satisfactory, and I have found a new drug, pyramidon and its salts, much more useful; if there be any pyrexia five-grain doses in cachets every four hours of the pyramidon acid salicylate are perhaps best, but if the cough be bad and rhonchi are heard in the chest then similar doses at the same intervals of the acid camphorate are to be recommended.

Infection of the Eustachian tube and middle ear is by no means infrequent and may cause considerable discomfort. Applications of dry heat to the external ear are of service; the results of vaccine therapy though satisfactory are somewhat slow in appearing.

Should the trachea and bronchi be badly affected a tedious convalescence, with possible disturbance of the circulatory and digestive systems, is almost inevitable. Here a single injection of from 250,000,000 to 500,000,000 of a catarrhalis vaccine often acts in a manner which is almost marvellous; several cases of the most incessant cough have secured perfect freedom in less than 24 hours.

As regards the influenza bacillus I have nothing to say, as it appears to have been conspicuous by its absence during the past four years, and my consequent experience is *nil*. Horder, however, in the number of the *Practitioner* for May, 1908, records the results of treatment of a case of chronic ulcerative endocarditis due to the influenza bacillus by means of the corresponding vaccine. The favourable result therein obtained holds out good hopes that vaccine therapy might prove of service in dealing with acute attacks of catarrh due to this bacillus.

In the case of Friedländer's bacillus chronicity is most to be feared, but infection of the Eustachian tube and middle ear is by no means unlikely. Apart from vaccine therapy I know of no useful measure in dealing with these complications.

(*b*) *Of chronic colds.*—These all seem to be due to the bacillus of Friedländer. In each of two cases several operations had previously been performed on the nose and throat but without effecting relief from the perpetual cold for more than a few weeks; nevertheless, where spurs or deflections or polypi be present in the nose or enlarged tonsils in the throat, surgical interference should first be sought and adequate airway obtained. The most distressing symptom is a continual "stuffiness" of the nose. This condition is due not so much to excess of nasal secretion as to reflex turgidity of the nasal mucosa. That it is reflex in origin is shown by the instantaneous relief afforded various subjects on getting into a cold bath, by going out of a hot room into a cold, or by even leaning the head to one side. This would suggest that permanent relief might be secured by cauterisation of the mucosa over a certain area, as in the instance of one of the forms of asthma. So far as I am aware this has never been tried. Another way is by destroying the organisms which set up the reflex. Intranasal douches are useful but seem hardly sufficient for this purpose. Combination of this with injections of a vaccine prepared from the organisms isolated from the patient has proved very satisfactory.

Details of my work upon the vaccine therapy of colds will now be given.

VIII.—THE VACCINE THERAPY OF COLDS.

A. Experiment. To determine whether there are opsonins for the organisms in question—viz., bacillus septus, micrococcus catarrhalis, and bacillus Friedländer.—Two specimens of blood serum were taken and each was divided into two portions, one of these being heated for one hour at 60° C. to destroy any opsonin which might be present. The sera, unheated and heated, were then employed as usual in opsonic determinations and films prepared. The counts obtained for 50 polymorphonuclear leucocytes were as follows:—

(*a*) Organism employed: micrococcus catarrhalis.

Serum I.		Serum II.	
Unheated.	Heated.	Unheated.	Heated.
250 in 50	0 in 50.	260 in 50	0 in 50

The presence of an opsonin for this organism, which is all destroyed by heating for one hour at 60° C., is thus demonstrated.

(*b*) Organism employed: bacillus septus.

Serum I.		Serum II.	
Unheated.	Heated.	Unheated.	Heated.
68 in 50	23 in 50	67 in 50	23 in 50

which proves the presence of an opsonin for bacillus septus, which, however, is *not all* destroyed by heating for one hour

at *60° C.* This result was confirmed by repetition with two other specimens of serum as follows:—

Serum I.		Serum II.	
Unheated.	Heated.	Unheated.	Heated.
220 in 100	67 in 100	280 in 100	61 in 100

Just as in the former experiment we see that about a quarter of the opsonin for bacillus septus is not destroyed by heating for one hour at 60° C.

(*c*) Organism employed: bacillus of Friedländer.

Serum I.		Serum II.	
Unheated.	Heated.	Unheated.	Heated.
777 in 100	92 in 100	636 in 100	97 in 180

From this it would appear that about one-seventh of the opsonin for bacillus of Friedländer is not destroyed by heating at 60° C. for one hour.

One striking feature in the experiments (*b*) and (*c*) with heated serum is that only 1 cell in 10 or 20 exhibits phagocytic power and that it exhibits it usually to a very marked degree. A frequent experience in doing opsonic determinations even with emulsions of considerable dilution is to find a cell here or there crowded far above its fellows with organisms. The recurrence of this phenomenon in cases where heated sera are employed would suggest peculiar activity in certain few leucocytes, an activity which may be exerted upon organisms almost independently of the opsonising action of the serum.

B. Experiment. Determination of length of negative phase.—It is well known that the first result of the injection of a vaccine of any organism is the production of a so-called negative phase, or temporary reduction in the opsonic index to that organism; this period during which the negative phase lasts may be regarded as one of increased susceptibility or diminished powers of resistance, and varies not only for different organisms but also for different individuals. It therefore becomes a matter of great importance to gain some idea of its length in the case of these "cold" organisms, lest premature exposure of the patient to changes of temperature and cold should result in an increase in the severity of the attack and a possible pneumonia in the case of a Friedländer or paratetragenus infection.

(*a*) An injection of 250,000,000 of killed bacillus septus was given and samples of blood were taken on injection and after intervals of 3, 6, 12, 18, 24, 36, 48, 72, and 96 hours. The comparative opsonising powers of the various sera towards bacillus septus were then determined in the usual way with the following results:—

TABLE X.

1.	On injection	.....	882 bacilli in 200 cells	.....	Index	= 1
2.	After 3 hours	.....	544	,, ,, ...	,,	= 0·62
3.	,, 6 ,,	.....	885	,, ,, ...	,,	= 1·0
4.	,, 12 ,,	.....	804	,, ,, ...	,,	= 0·91
5.	,, 18 ,,	.....	949	,, ,, ...	,,	= 1·08
6.	,, 24 ,,	.....	1096	,, ,, ...	,,	= 1·25
7.	,, 36 ,,	.....	1000	,, ,, ...	,,	= 1·15
8.	,, 48 ,,	.....	1044	,, ,, ...	,,	= 1·20
9.	,, 72 ,,	.....	1220	,, ,, ...	,,	= 1·38
10.	,, 96 ,,	.....	1248	,, ,, ...	,,	= 1·39

From this we see that at the end of three hours the negative phase is fully established, that the index has recovered to unity at the end of six hours, again to fall slightly at 12 hours, then to recover and gradually attain a maximum at about the end of the third day.

(*b*) *For micrococcus catarrhalis.*—

TABLE XI.

Injection = 350,000,000 organisms.

1.	On injection	.....	942 bacilli in 200 cells	.....	Index	= 1
2.	After 3 hours	.....	722	,, ,, ...	,,	= 0·77
3.	,, 6 ,,	.....	580	,, ,, ...	,,	= 0·62
4.	,, 9 ,,	.....	825	,, ,, ...	,,	= 0·88
5.	,, 15 ,,	.....	1125	,, ,, ...	,,	= 1·20
6.	,, 22 ,,	.....	1080	,, ,, ...	,,	= 1·15
7.	,, 28 ,,	.....	1131	,, ,, ...	,,	= 1·20

Here we see that the negative phase lasted somewhere between nine and 15 hours, say about 12 hours. This experiment, as in the case of the one with bacillus septus, was done upon myself when quite free from cold. The following observation was made upon a patient who had been troubled with a bad tracheal cough for a fortnight, from whose tracheal mucus the micrococcus catarrhalis had been recovered in practically pure culture.

TABLE XII.

Injection = 350,000,000 organisms.

Normal serum	... ...	250 bacilli in 100 cells	...	Index	1
Patient's serum	before injection ...	140 ,,	,, ...	,,	= 0·56
,, ,,	after 4 hours ...	90 ,,	,, ...	,,	= 0·36
,, ,,	,, 8 ,, ...	220 ,,	,, ...	,,	= 0·88
,, ,,	,, 12 ,, ...	280 ,,	,, ...	,,	= 1·12
,, ,,	,, 15 ,, ...	312 ,,	,, ...	,,	= 1·25
,, ,,	,, 18 ,, ...	325 ,,	,, ...	,,	= 1·30

TABLE XIII.

The Opsonic Index during an Acute Attack due to Bacillus of Friedländer.

Third day of cold. Cold began on 16th inst. Index before attack 1·25.

2 P.M.	18th	Index	= 1·17
11 ,,	18th	,,	= 1·05
10 A.M.	19th	,,	= 1·26
10 P.M.	19th	,,	= 1·07
10 A.M.	20th	,,	= 1·07

The subacute stage began on the 20th.

4 P.M.	24th	Index	= 0·96
Noon	26th	,,	= 0·89
,,	27th	,,	= 0·93

Injected with 300,000,000 at 2 A.M. on the 28th inst., as the subacute stage had become distinctly annoying to the patient.

2 A.M., 28th, before injection	... ...	Index	= 0·87
After 8 hours	... ...	,,	= 1·9
,, 18 ,,	... ...	,,	= 2·14
,, 32 ,,	... ...	,,	= 2·4

Nose quite sterile and cold perfectly well.

In another case the negative phase lasted over 24 hours.

From these experiments we learn that the duration of the negative phase does not usually last over 12 hours. If, therefore, a patient be injected in the evening, remain in the house, and go to bed early, risk of a fresh acute attack being lit up should be over by the time of rising in the morning; for even if the positive phase be not fully established the index is then on the rise, and a period of rising index is probably one of slight danger of infection.

(*c*) *Preparation of the vaccine.*—It is well recognised that to obtain the best results it is advisable to prepare the vaccine from the organisms isolated from the person's own body. In the case of tubercle this is hardly possible, while in gonorrhœal affections it is not always easy, nor does it seem so imperative for two reasons: firstly, the gonococcus seems to be a bacteriological entity and not to be a member of a family; and, secondly, in chronic affections it may be of so much diminished virulence that a vaccine prepared from a fully virulent strain may be the more advantageous to employ. The bacillus septus and micrococcus catarrhalis also appear to be bacteriological entities, but so easy is their isolation, and consequently the preparation of a vaccine, that unless the case is one urgently calling for injection, when a stock vaccine may be employed, I consider the preparation of one from the patient's own organisms the better procedure. The case of the bacillus of Friedländer stands on quite a different footing. This appears to be not a single organism but to be a generic term for a number of very closely related bacteria, exhibiting, it is true, the same morphological appearances and general cultural reactions but varying slightly in behaviour towards the various sugars. In Table XIV. this is set forth for the nine strains isolated from nine of my cases. It will be remembered that these were proved highly pathogenic to rabbits, guinea-pigs, and rats. My best thanks are due to Dr. J. W. H. Eyre for confirming these reactions.

No. 3 is of special interest inasmuch as it was isolated from a chronic cold of which the acute attack was almost certainly communicated by No. 1. Shortly after the culture was taken the patient was well and the question is whether the changed reactions are due simply to diminished activity or to changes of environment.

Comparison of sugar reactions.—It will be seen that the only absolutely constant results as regards the formation both of acid and gas for all nine strains were obtained in the cases of glucose, levulose, and galactose. In the instances of all the other sugars slight variations are seen. Strains 1,

2, 6, and 9 were identical in all their reactions. Despite this the vaccine employed for Case 1 with complete success was quite inefficient when used upon Case 9. Before injection with 300,000,000 dead organisms the index stood at 1·45, a week later it was only 1·0, yet a week later it was only 1·36. This might, of course, have indicated a very long negative phase, but a repetition of the injection with a like dose of a vaccine prepared from the patient's own organism gave a quite satisfactory result.

(*d*) *The results of vaccine therapy.*—(1) In chronic colds; (2) in acute colds. 15 of the cases underwent vaccine therapy. Chronic colds: Cases 1, 16, 31, 34, and 42. Acute colds: Cases 8, 9, 17, 19, 29, 30, 32, 37, 38, and 41. The results may be tabulated thus.

1. Chronic Colds.

CASE 1.—
Description.—Chronic nasal catarrh for 12 years, with about 20 acute exacerbations every year.
Duration of treatment.—21 months.
Number of injections.—Eight.
Result.—There was disappearance of the bacillus of Friedländer after three injections. Complete immunity from acute attacks secured for 15 months by means of injections of the vaccines of the several "cold" organisms, then one acute attack due to the micrococcus catarrhalis.

CASE 16.—
Description.—Chronic naso-pharyngeal and tracheal catarrh for 17

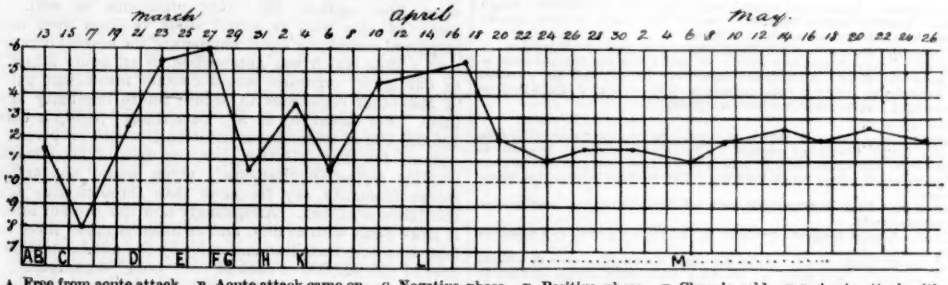
TABLE XIV.—*Sugar Reactions of Nine Strains of Friedländer's Bacillus.*

	No. 1.			No. 2.			No. 3.			No. 4.			No. 5.			No. 6.			No. 7.			No. 8.			No. 9.		
Days	1	3	7	1	3	7	1	3	7	1	3	7	1	3	7	1	3	7	1	3	7	1	3	7	1	3	7
Glycerine	AG	—	—	AG	—	—	—	AG	—	AG	—	—	AG	—	—	AG	—	—	—	AG	—	—	AG	—	AG	—	—
Glucose	AG	—	—	AG	—	—	AG	—	—	AG	—	—	AG	—	—	AG	—	—	AG	—	—	AG	—	—	AG	—	—
Levulose	AG	—	—	AG	—	—	AG	—	—	AG	—	—	AG	—	—	AG	—	—	AG	—	—	AG	—	—	AG	—	—
Galactose	AG	—	—	AG	—	—	AG	—	—	AG	—	—	AG	—	—	AG	—	—	AG	—	—	AG	—	—	AG	—	—
Mannite	AG	—	—	AG	—	—	—	AG	—	—	AG	—	AG	—	—	AG	—	—	AG	—	—	AG	—	—	AG	—	—
Dulcite	AG	—	—	AG	—	—	A	—	—	—	—	A	AG	—	—	AG	—	—	AG	—	—	AG	—	—	AG	—	—
Saccharose	AG	—	—	AG	—	—	—	AG	—	AG	—	—	AG	—	—	AG	—	—	AG	—	—	AG	—	—	AG	—	—
Lactose	AG	—	—	AG	—	—	—	AG	—	—	AG	—	AG	—	—	AG	—	—	AG	—	—	AG	—	—	AG	—	—
Maltose	AG	—	—	AG	—	—	—	AG	—	AG	—	—	AG	—	—	AG	—	—	AG	—	—	AG	—	—	AG	—	—
Raffinose	AG	—	—	AG	—	—	—	AG	—	AG	—	—	—	AG	—	AG	—	—	AG	—	—	AG	—	—	AG	—	—
Dextrin	AG	—	—	AG	—	—	—	AG	—	AG	—	—	AG	—	—	AG	—	—	AG	—	—	AG	—	—	AG	—	—
Inulin	AG	—	—	AG	—	—	No change.			—	—	A	A	—	—	AG	—	—	AG	—	—	AG	—	—	AG	—	—

A = Acid. G = Gas.

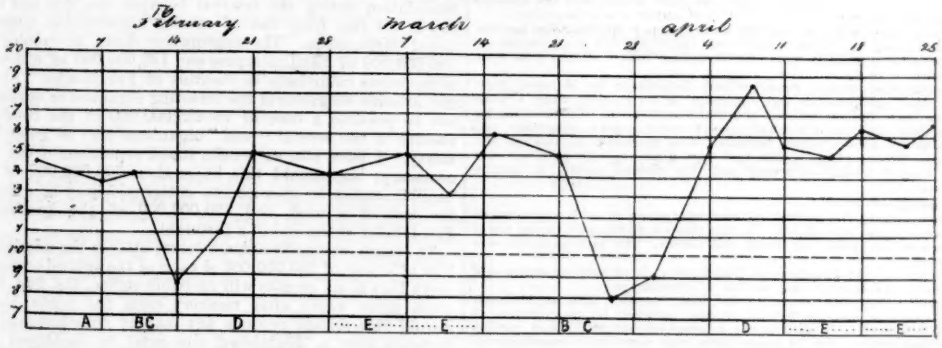
OBSERVATIONS UPON THE OPSONIC INDEX TOWARDS THE BACILLUS OF FRIEDLÄNDER OF TWO CASES OF CHRONIC NASAL CATARRH DUE TO THIS ORGANISM.

CHART 1 (CASE 1).



A, Free from acute attack. B, Acute attack came on. C, Negative phase. D, Positive phase. E, Chronic cold. F G, Acute attack with negative phase. H, Better. K, Another acute attack. L, Much better. M, Truly chronic condition of nasal catarrh.

CHART 2 (CASE 16).



A, Chronic cold. B, Acute attack. C, Negative phase. D, Positive phase. E, Chronic cold.

years, involvement of one Eustachian tube; frequent exacerbations, at least six every winter.

Duration of treatment.—14 months.

Number of injections.—Three of Friedländer vaccine and two of tracheal organism.

Result.—Greatly diminished secretion of mucus from naso-pharynx and trachea. One acute attack during 12 months.

CASE 31 (still under treatment).—

Description.—Chronic nasal catarrh for 20 years with involvement of frontal and ethmoidal sinuses and of the left middle ear; repeated surgical operations; many exacerbations and acute attacks.

Duration of treatment.—Intermittent during nine months.

Number of injections.—Five.

Result.—Little improvement in the chronic condition, Friedländer's bacillus being still present. Increased bodily comfort and marked diminution of acute attacks, only one in the nine months.

CASE 34.—

Description.—Chronic tracheitis for years with exacerbation and rather frequent attacks of naso-pharyngeal catarrh.

Duration of treatment.—12 months.

Number of injections.—Three of tracheal organisms and two of bacillus septus and micrococcus catarrhalis.

Result.—Practical disappearance of excessive secretion of mucus with one slight exacerbation and one acute attack of cold due to the micrococcus catarrhalis in the 12 months.

CASE 42.—Chronic nasal catarrh for from 10 to 12 years with involvement of right Eustachian tube and middle ear; between exacerbations symptoms almost disappear.

Treatment.—Still progressing: one of bacillus of Friedländer, bacillus septus, and micrococcus catarrhalis; one of bacillus septus (own organisms); one of bacillus septus and micrococcus catarrhalis (own organisms).

Result.—Considerable improvement. No acute attacks during past six months.

2. *Acute Colds.*

(*a*) Those due to the bacillus septus.

CASE 8.—

Description.—Very subject to acute colds, especially upon undertaking a train journey, which always began with a sore throat and would appear to have been due to the bacillus septus.

Duration of treatment.—15 months.

Number of injections.—Two of bacillus septus alone and three of mixed organisms.

Result.—Only one attack during 15 months, but that a very severe one indeed and due to the micrococcus catarrhalis.

CASE 9.—

Description.—Sore throat, profuse nasal discharge, no cough. Bacillus septus isolated.

Treatment.—One injection of 250,000,000 organisms upon the fourth day.

Result.—Complete recovery within 48 hours and subsequent immunity during the whole winter.

CASE 17.—

Description.—Acute nasal catarrh beginning with sore throat; cough absent. Bacillus septus isolated. Patient very liable to such attacks which usually lasted for a month or more.

Treatment.—Injection of 275,000,000 organisms upon the third day.

Result.—Complete recovery within 48 hours without the presence of any subacute stage. Subsequent immunity for at least six months. The patient was not seen subsequently to that period; I heard that he then caught a severe cold but have no details.

CASE 30.—

Description.—An acute attack of nasal catarrh beginning with sore throat; cough altogether absent. This attack differed in clinical character to the usual ones in which sore throat was, as a rule, absent and persistent tracheal cough habitual. The bacillus septus was alone present.

Injections.—One of 200,000,000 each of bacillus septus and micrococcus catarrhalis.

Result.—Almost complete recovery in two days without any subacute stage.

Subsequent history.—Immunity for over six months, several attacks which seemed to be coming on aborting completely within an hour or two. An injection of 150,000,000 each of bacillus septus and micrococcus catarrhalis was then given to secure immunity for a further period, but in about a month a very severe attack due to micrococcus catarrhalis came on and further vaccine treatment was emphatically declined.

CASE 32.—

Description.—The patient was very subject to colds with sore throat and cough. In this attack cough was quite absent and the bacillus septus was isolated.

Treatment.—Upon the third day an injection of 250,000,000 of bacillus septus to meet the present attack and 150,000,000 of a stock vaccine of micrococcus catarrhalis to immunise against future attacks from that organism were given.

Result.—Considerable constitutional disturbance for 24 hours, then very rapid convalescence and immunity for six months, when a fresh attack due to the micrococcus catarrhalis supervened. This was met by immediate injection of a small dose of mixed septus, catarrhalis, and Friedländer vaccine which appeared very markedly to shorten the attack. It would thus appear that during nine months only one cold was caught instead of several and this yielded readily to vaccine therapy.

CASE 38.—

Description.—The patient had been very prone to colds which began with cough and sore throat. In the present attack sore throat was a prominent symptom but cough was absent. The bacillus septus was isolated.

Treatment.—An injection of 250,000,000 each of bacillus septus and micrococcus catarrhalis and bacillus of Friedländer.

Result.—Complete immunity for four months, then an incipient cold came on and the patient at once returned for an injection of 125,000,000 each of bacillus septus, micrococcus catarrhalis, and bacillus of Friedländer. For 24 hours there was some little constitutional disturbance but the cold was completely aborted. Thus during seven months practically complete immunity has been secured and the patient assures me that but for the injections he would certainly have had several attacks in this time.

(*b*) *Colds due to the bacillus of Friedländer.*

CASE 19.—

Description.—The patient was very subject to attacks like the present, sore throat and cough being absent. The nasal discharge was very profuse indeed, the subacute stage very pronounced. The bacillus of Friedländer was isolated.

Treatment.—Injection upon the twelfth day of 300,000,000 of bacillus of Friedländer.

Result.—Disappearance of organisms after 32 hours; convalescence complete after five days. Complete immunity for a year.

3. *Case due to Mixed Infection by Bacillus of Friedländer and Micrococcus Catarrhalis.*

CASE 29.—

Description.—The present attack was the fourth within six months. There was very profuse discharge, no sore throat, but bad cough. The bacillus of Friedländer and micrococcus catarrhalis were both isolated.

Treatment.—Upon the fourth day 250,000,000 of the bacillus of Friedländer were given but no micrococcus catarrhalis, none being available.

Result.—Severe constitutional disturbance for 24 hours, then very rapid improvement. The cough, however, persisted for two months; six months later an injection of 250,000,000 of each of the three organisms was given with the result that complete immunity from colds has been secured for a whole year.

4. *Case due to the Micrococcus Catarrhalis.*

CASE 41.—

Description.—Attack characterised by bad cough and absence of sore throat. Rhonchi to be heard all over the chest. Micrococcus catarrhalis isolated.

Treatment.—Injection of 250,000,000 micrococci upon the third day.

Result.—Next day the cold itself was much better, but the cough persisted to a slight extent for a fortnight. Up to date (four months) there has been no fresh attack.

CASE 37.—Has just commenced treatment, convalescence from an acute attack having already begun; no definite conclusion could be drawn from the one injection, but an attempt is to be made to secure immunity from future attacks.

Conclusions Drawn from the Results of Vaccine Therapy in the above Cases, and Rules for its Employment.

A. Acute colds.—It would appear that by the injection of an appropriate dose of the corresponding bacterial vaccine convalescence in acute attacks of cold can be markedly hastened and complications obviated. My procedure during the last few months, especially in several cases not recorded in this paper, has been slightly altered. The attempt used to be made, not only to deal with the present attack but also to secure immunity at the same time against the other organisms as well. The result of this was, as mixed stock vaccines were usually employed containing equal numbers of the several organisms, that a dose which was appropriate in an acute attack due to one given organism would contain insufficient numbers of the other organisms to secure future immunity against them. For instance, in a "catarrhalis" cold, a dose of 125,000,000 of micrococcus catarrhalis would be given; this sufficed for that infection, but the dose of 125,000,000 of bacillus septus simultaneously given would not suffice to secure immunity, say, for more than three months against this latter organism. Accordingly now the present infection is alone dealt with at first, and an attempt made three weeks later to secure complete immunity by the administration of a dose of 250,000,000 of each of the "cold" organisms.

The best times for dealing with an acute attack are either immediately at the onset or upon the third day. At the former period the cold may be completely aborted; at the latter the onset of the subacute stage may be obviated and convalescence be complete within from 24 to 36 hours. Inoculation during the interval between the first and third day is not free from risk of causing considerable constitutional disturbance. The appropriate doses to employ are 250,000,000 of bacillus septus and 125,000,000 of either the micrococcus catarrhalis or bacillus of Friedländer. Should the accurate diagnosis of the infecting organism or organisms not be possible a dose of 75–125,000,000 of the combined vaccine of the several "cold" organisms may be given with safety. I have not, as a rule, found repetition of the dose necessary, but should this be so then 500,000,000 of the bacillus septus or micrococcus catarrhalis may be given at the end of a week and 250,000,000 of the bacillus of Friedländer at the end of a fortnight.

To secure immunity against future attacks the administration of a dose of 250,000,000 of each of the several organisms every four to six months will probably suffice, the first being given three weeks after recovery from the acute attack. Should this dosage produce any marked constitutional disturbance then a diminished one must be employed upon subsequent occasions.

B. In chronic colds.—Of the four cases of truly chronic colds the treatment of one was recognised at the beginning as likely to prove very difficult from the presence of complications and probable secondary infections. It is still under treatment, and I am hopeful of ultimate success. One has been absolutely cured, a second practically so, and the third greatly benefited, and in all acute exacerbations have been obviated. Injections in the case of chronic colds should, I think, be controlled by determinations wherever possible of the opsonic index; if the condition be one of chronic tracheitis this can hardly be done as the infection is usually a mixed one, unless the index be taken towards the micrococcus catarrhalis alone. Doses of 500 millions of a vaccine of the mixed organisms obtained from a 12-hours' culture on blood-agar of the tracheal mucus may be employed in cases of chronic tracheitis.

In chronic nasal catarrh secondary infection may be present, but the first thing to be done is to get rid of the bacillus of Friedländer by injections controlled by the index and then to deal with the secondary infection.

It may here be remarked parenthetically that it is quite possible that in certain cases of chronic nasal catarrh with involvement of the various accessory sinuses the bacillus of Friedländer may have disappeared by the time the case is seen and secondary infection by staphylococci, streptococci, pneumococci, &c., alone be present. I have not yet met with such a case, but am quite prepared to do so.

SUMMARY.

1. It has been shown that there are at least five organisms capable of the production of an attack of acute nasal catarrh —viz.: (1) the bacillus influenzæ; (2) the bacillus septus; (3) the bacillus of Friedländer; (4) the micrococcus catarrhalis; and (5) the micrococcus paratetragenus. 2. These may be present in the naso-pharyngeal space in a certain percentage of cases which exhibit no pathological features; increase of virulence and lowered resistance of the tissues may then light them up into activity. In other cases the infection is one from without. 3. Each organism produces its own type of cold and a differential diagnosis of the organism is possible from a consideration of the clinical features; this is more difficult should the infection be a multiple one. 4. This differential diagnosis is of considerable value both in prognosis and in treatment. 5. Chronic nasal catarrh is probably always due to infection by the bacillus of Friedländer, unless the Eustachian tube and middle ear be involved by the micrococcus catarrhalis; chronic tracheal catarrh to infection by the micrococcus catarrhalis or micrococcus paratetragenus to which secondary infection by staphylococci, streptococci, pneumococci, and other pathogenic organisms may be superadded. 6. For infection local defect of opsonin and for cure increase of opsonin are probably necessary conditions. 7. By means of the injection of the corresponding bacterial vaccines an attack of acute cold due to any given organism or organisms can be considerably shortened and complications be probably prevented. 8. In a similar manner chronic infections may be cured. 9. By injection of the vaccines of the several organisms in appropriate doses and at appropriate intervals considerable if not complete immunity against future attacks of acute cold may be secured. In those who are very susceptible and fall victims to every epidemic that may occur, the best procedure probably is systematic immunisation every four to six months against all the "cold" organisms and special immunisation against the particular organism or organisms which may be responsible for the appearance of subsequent epidemics against which protection is desired.

Wimpole-street, W.

THE ROYAL DEVON AND EXETER HOSPITAL, EXETER: ALTERATION OF RULES.—At a special meeting of the court of governors of the Royal Devon and Exeter Hospital held on Nov. 26th it was decided to alter the statutes of the institution so as to enable the anæsthetists, on their retirement at the expiration of their five years' service, to be eligible for re-appointment up to the age of 50 years. It was further determined that "the medical registrar and pathologist shall retire at the expiration of five years from the date of his appointment but shall be eligible for re-election up to the age of 50 years."

PROPHYLAXIS IN ACIDOSIS FOLLOWING ANÆSTHESIA.

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OWING to the prominence which has been given lately to the condition of acidosis occurring after the administration of anæsthetics, we have during the last six months carried out an investigation, thanks to the generosity of our surgical colleagues, with a view to ascertain the value of the two remedies suggested—sodium bicarbonate by Beesley and glucose by Beddard. The first series of cases (127) was taken in order to found a basis for comparison with the treated cases and also with a view of establishing the personal equation, both in the administration of anæsthetics and in the examination of the urine. The hospital routine method of preparation—1 ounce of castor oil the night before and a soap enema on the morning of the operation—was followed. The urine, before, in each case was that passed just before operation, and in the case of the women it was removed by catheter. The after specimen was the first passed after the operation, the women being again catheterised. The urine was examined 18 hours later. The anæsthetic, duration of operation, and after-results, especially vomiting, were noted. The method of determining the presence of acetone was that described by Jackson Taylor and confirmed by Weyl's reaction.

Vomiting.—The terms primary and secondary vomiting are intended to convey—primary, any sickness occurring in the first 12 hours after operation, and secondary, any sickness occurring later. Marked vomiting means sickness lasting more than 24 hours.

First Series:—

	No. of cases.	Per cent.
Total number	127	—
Cases showing acetone in urine—		
Before operation	32	25·2
After operation	78	60·4
Cases of primary vomiting	69	54·3
Cases of secondary vomiting	49	30·0
Of which acetone was present in	39	89·0
Marked vomiting lasting over 24 hours	17	13·4
The acetone reaction was obtained in	15	89·0

The two cases in which no reaction was obtained were both of pyonephrosis—one case was of nephrectomy and the other cystoscopy; the sickness in each case lasted 30 hours. 42 per cent. of the patients with albumin in their urine after operation passed acetone. 15·8 per cent. of these had secondary vomiting—in one case of cataract in a boy lasting 72 hours, assuming a typical case of acid poisoning (details will be found in Case 3). There were 10 cases of secondary vomiting without acetone in the urine. Only 2 of these were marked—the aforementioned cases of pyonephrosis. Cases in which acetone was present in the urine after operation without any symptoms were 49, or 30 per cent. There were 47 septic cases; of these, 30 had traces of acetone after operation and 10 passed acetone before and after operation. Of the malignant cases, 8 had acetone after operation and 4 passed acetone before and after operation.

Second series.—These patients were treated with half-drachm doses of sodium bicarbonate at four-hourly intervals —in all half an ounce—the last dose being given four hours before operation.

	No. of cases.	Per cent.
Total number	73	—
Cases showing acetone in urine—		
Before operation	15	25·4
After operation	39	53 4
Cases of primary vomiting	49	67·0
Cases of secondary vomiting	25	34·2
Acetone was present	22	88·0
Marked vomiting	9	12·0
Acetone reaction obtained in	8	88·0

(The single exception being a case of varicose veins.)

44 per cent. of the patients passing albumin after operation passed acetone. 25 per cent. of these had secondary vomiting. Acetone was present without any secondary vomiting in 16 cases, or 21 per cent. Secondary vomiting without acetone occurred in 3 cases. There were 13 septic cases; of these 9 passed acetone after operation and 5 passed acetone both before and after operation. Of the 7 malignant cases, 3 passed acetone after operation and none passed acetone before operation. The primary vomiting in this series was so marked, consisting chiefly of retching, commencing immediately after the cessation of the anæsthetic, that the series was stopped earlier than was anticipated. The urines in this series were all alkaline before operation and with two exceptions were acid after operation—the two exceptions, we think, were due to decomposition of the urines.

Third series.—These patients were treated with half an ounce of glucose every four hours before operation for six doses, the last dose being given four hours before operation.

	No. of cases.	Per cent.
Total number of cases...	100	—
Cases showing acetone in urine—		
Before operation	3	—
After operation	22	—
Cases of primary vomiting	53	—
Cases of secondary vomiting...	21	—
Acetone was present in	6	28·0
Marked vomiting	2	—
Acetone was present in	2	100·0

(These cases lasted 28 hours and 24 hours respectively.)

19 per cent. of the patients with albumin in their urine passed acetone. Secondary vomiting occurred in 2 cases, or 40 per cent. These two cases were the only cases of marked vomiting in the series. Cases passing acetone without vomiting numbered 8. There were 12 septic cases; of these, 6 passed acetone after operation and 1 before and after operation. There were 14 malignant cases; of these, 2 passed acetone after operation and 1 before and after operation. The large proportion of primary vomitings in this series led us to suppose the amount of glucose given to be at fault; the dose has been decreased to one teaspoonful. The results appear so far to be more satisfactory. We hope to confirm this by a later series. The glucose is taken much better by the patients than the sodium bicarbonate; it must be given pure or freshly mixed, as otherwise it tastes musty owing to rapid bacterial invasion. In no case was glucose present in the urine either before or after operation. During the whole of the three series increased acidity of the urine after operation was noticed.

Comparative Analysis.

—	Series 1.	Series 2.	Series 3.
Acetone in urine before operation ...	25·2%	25·4%	3%
,, ,, after operation ...	60·4%	53·4%	22%
Cases of primary vomiting	54·3%	67%	53%
,, ,, secondary vomiting...	30%	34·2%	21%
Acetone in cases of secondary vomiting	89%	88%	28%
Marked vomiting	13·4%	12%	2%
Acetone in cases of marked vomiting	89%	88%	100%
Percentage of patients with albuminous urine passing acetone...	42	44	19
Cases of secondary vomiting in (3) ...	15·8%	25%	40%
Cases of secondary vomiting without acetone	10 cases.	3 cases.	14%
Cases where acetone was present without symptoms	30%	21%	8%

The anæsthetics given during these three series were with few exceptions either chloroform or C.E. mixture given on a Skinner's mask, or $CHCl_3$ by Junker's inhaler; 32 per cent. were induced by ethyl chloride. The percentage of acetone after the various anæsthetics showed very little change. We could not determine that the time in hospital previous to operation had any bearing on the subject. The average duration of stay was four days previous to operation.

The following previous observations were noted and confirmed: (1) the greater liability of children to symptoms; (2) the frequency in which septic cases, especially abdominal, showed symptoms of acidosis; and (3) the length of anæsthesia was not a great factor in the production of acetone.

The following three cases show the value of sodium bicarbonate in the after-treatment. (For permission to publish Case 1 we are indebted to Dr. H. M. Evans of Lowestoft.)

CASE 1.—The patient, a male, aged 12 years, was admitted for appendix abscess on April 25th last. Vomiting had been present for three days prior to operation. Operation was performed on the 26th at 12 noon. The anæsthetic was A.C.E. and ether by open method. The abscess was evacuated and the appendix was removed. The duration of the operation was 60 minutes. At 2.30 P.M. the patient was extremely restless; the mucous membranes were cyanosed, respiration was irregular, and the pulse was almost imperceptible. There was vomiting of mucus streaked with dark grumous matter. A specimen of the urine passed at this stage showed the presence of albumin and an intense acetone reaction. 10 ounces of sodium bicarbonate solution (grs. v. to ℥ i.) were injected into the subcutaneous tissues of the left axilla. At 4.30 P.M. restlessness and vomiting were still marked; the stomach was washed out with sodium bicarbonate solution (℥i—O i) and 10 ounces of sodium bicarbonate solution were injected into the right axilla. At 9.30 P.M. the patient was much quieter, the vomiting ceased, and the respirations were regular. On April 26th he was again restless and was vomiting, but not dark matter. The stomach was again washed out with sodium bicarbonate solution. The urine was alkaline; albumin was present and acetone was absent. The further progress of the case was uneventful.

CASE 2.—The patient, a male, aged seven years, was admitted for talipes equino-varus on March 29th last. The operation consisted of excision of the astragalus. The anæsthetic was ethyl chloride and chloroform. The duration of the operation was 60 minutes. The patient became collapsed, and vomiting started in the first 12 hours and continued into the next 24. The grumous matter was again present. The urine showed acetone after the operation. The treatment was confined to the administration of sodium bicarbonate by the mouth—℥i every four hours. The drug was given 12 hours after operation and the vomiting was quickly controlled. The acetone did not disappear until two days after operation.

CASE 3.—The patient, a female, aged five years, was admitted for congenital ptosis on April 21st last. A plastic operation was performed, the anæsthetic being ethyl chloride and chloroform. Vomiting started in the first 12 hours but became much more marked in the next 24. The child was collapsed. Acetone was present in the urine before and after operation. Sodium bicarbonate had been given before operation and was again given for two days afterwards. The vomiting soon ceased. Acetone was present in the urine until two days after operation.

Prophylaxis.—In the emergency cases, in which we find acetone present before operation, the evidence tends to show that vomiting is more marked after operation; this is especially so in children. Therefore in such cases either of the following methods should be adopted:—1. If possible delay for a few hours to admit of treatment by the mouth or the rectum. The drug may be given in large doses. 2. Surgical procedure, such as transfusion with a sterile 5 per cent. isotonic glucose solution. We would here point out the danger of using such a solution for flushing out the abdomen, owing to the excellent pabulum afforded to bacteria.

Routine treatment.—For children, tablets of glucose grs. 10 four-hourly for 12 doses; for adults ℥i. of glucose four-hourly for 12 doses. This method enables the liver to store up glycogen and so deal with the acid products arising from the toxic action of the anæsthetic. In the after-treatment sodium bicarbonate is still the best drug to use.

During our third series we never had a case which needed any treatment afterwards, so we were unable to judge of the value of glucose given later. After the condition of acidosis has been established, the theoretical combination of the acid with the basic radicle seems obviously correct, but the bases might well be made to include magnesium and calcium as well as sodium. The treatment afterwards therefore resolves itself into giving saline solution either by the tissues or veins to make up for fluid lost by vomiting; to wash the stomach out with a solution of sodium bicarbonate and to leave in

that organ a solution of salts of sodium magnesium and calcium; and also to relieve the liver with calomel in small repeated doses.

Previous investigation in prophylaxis.—Ladd and Osgood showed that with ether given in a cone 88½ per cent. of the cases showed acetone; with ether given by the open drop method the figures were 26 per cent. Young and Williams found that with ether in a cone 75 per cent. gave acetone, and that with ether by the drop method 47¼ per cent. gave acetone. Beesley recommended giving the patients sodium bicarbonate before operation. Beddard suggested giving glucose prior to operation.

Conclusions.—1. That so far as prophylaxis by drugs glucose has a much greater power in controlling the acetonuria than sodium bicarbonate. 2. That the secondary vomiting is in direct relation to the amount of acetone produced. 3. Anæsthetics should be given by an open method. 4. That in all cases of vomiting lasting over 12 hours the stomach should be washed out with a solution of sodium bicarbonate leaving some fluid in that organ.

Bibliography.—Ladd and Osgood: Annals of Surgery, September 1907. Young and Williams: Boston Medical and Surgical Journal, January, 1908. Beesley: Brit. Med. Jour., p. 142, 1906. Beddard: THE LANCET, March 14th, 1908, p. 782.

A CASE OF ANEURYSM OF THE ANTERIOR CEREBRAL ARTERY.

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THE patient, aged 28 years, was admitted to University College Hospital on May 7th, 1908. He gave the following history, which was supplemented in some of its details by his relatives. On April 27th he was at work when he was suddenly attacked with severe headache. The headache was across the top of the head and soon after its onset the patient vomited. He was given some brandy and was sick again. He thereupon left off work, walked home, and went straight to bed. The time occupied in walking home was about eight minutes. When in bed he vomited again and immediately lost consciousness. He remained insensible for 20 minutes, becoming quite rigid; he had no twitchings and no incontinence of urine or fæces during the attack. While unconscious he vomited once. He was seen by a medical man on the 29th and he continued to vomit several times during the day irrespectively of the occasions following the taking of food. On the 30th he vomited a little after each meal. Subsequently to this he had no further sickness. There was intense headache at the back of the head after the recovery of consciousness; this lasted for three days and then it disappeared. The patient never lost the power of movement in the limbs, but after the seizure he experienced a numb feeling in the arms and the legs. On May 1st he had apparently recovered to such a degree that he went out for a short walk. The effort, however, made him very fatigued and he went back to bed again. For the last week before admission to hospital the patient had been losing sight in the right eye and had been seeing double out of that eye. This dimness of vision gradually passed into complete blindness. He experienced a gradual but increasing weakness in the upper and lower limbs. There was a history of gonorrhœa three months previously but no definite specific history could be elicited.

On admission at 6.30 P.M. the patient was somewhat drowsy and his speech was rather slurring in character. He was quite rational and was able to give a history. The axillary temperature was 98·8° F. and the pulse was 96, irregular in force and rhythm, and of poor tension and small volume; there were no missed beats. Nothing abnormal was detected in the cardiac, respiratory, or abdominal systems. There was some scarring of the penis. The urine, which was of a dark amber colour and had a specific gravity of 1024, gave a thick cloud of albumin but no sugar was deposited. The pupils were equal and they reacted to accommodation. The left pupil reacted to light; the right pupil did not react to direct, but did to indirect, stimulation. The patient was blind in the right eye. Visual perception was normal in the left eye. There was no nystagmus. With regard to the cranial nerves there was slight weakness of the masseter on the left side. Both external recti were paralysed, the left more than the right. There were marked ptosis of both eyelids, weakness of the left orbicularis palpebrarum, and obvious facial weakness on the left side. Hearing appeared to be diminished on both sides. The other cranial nerves were normal. Ophthalmoscopic examination revealed marked optic neuritis in the left eye with hæmorrhages in the disc. The right fundus was normal. The motor power was weak in the arms and the legs. There was no anæsthesia, analgesia, or atopognosis. The patient was unable to touch accurately the tip of the nose with his forefinger and could not feed himself. The superficial reflexes were normal, as were also the deep reflexes of the arm and the wrist-jerks. The knee-jerks were absent, a condition which persisted throughout the illness. No murmur was heard on auscultation of the head. The diagnosis was that of cerebral aneurysm. The patient was kept in bed and was given antispecific treatment. The albumin disappeared from the urine on the third day after admission.

There is nothing of note to record until May 16th, when the patient was found to have atopognosis (being unable to localise accurately the position of things touched) and astereognosis. Both superior oblique muscles of the eyeball appeared to be paralysed. Occasionally the patient showed athetoid movements (tabetic type) in the hands. His other physical signs were unchanged, but his general condition had much improved and he took his food well. On the 18th he appeared to have regained more power in his limbs. On the 20th the end came with dramatic suddenness. When examined at 11 A.M. the patient was quite rational and announced that he was feeling much better. The temperature was 96°, the pulse was 84, and the respirations were 20. At 11.30 A.M. he suddenly called out. On coming to the bedside he was found to be unconscious; his breathing was stertorous and his face was deeply cyanosed. There was some twitching of the left side of the face and of the right upper eyelid. The knee-jerks were unaltered and there was no rigidity of the body or the limbs. The patient had a stool just previously to the attack. Oxygen was administered and five minims of solution of strychnine were given hypodermically. Death ensued within ten minutes from the onset of the seizure. On auscultation the heart was heard to beat feebly for a short time after the cessation of respiration.

At the post-mortem examination, 26 hours after death, the body was found to be well nourished and the heart was normal. The aorta throughout its course contained numerous non-calcareous patches of atheroma, while the coronary vessels displayed patches of thickening. The mesenteric vessels were practically unaffected. The lungs showed superficial collapse at the bases with hypostatic congestion. The kidneys and other abdominal organs were quite normal. The convolutions of the brain were flattened and contained brownish patches of staining, especially in the frontal region. The meninges were not thickened. At the base of the brain there was a blood clot extending from the optic chiasma over the floor of the third ventricle to the pons and medulla and extending between the cerebellum and the cerebrum. There was blood in both lateral ventricles. The hæmorrhage extended downwards along the cord as far as the third cervical root. Irregular patches of cartilaginous thickening were present in the arteries at the base of the brain and the internal carotids were much dilated and thickened. On dissection a thin-walled saccular aneurysm was found in the left anterior cerebral artery occurring in its course just after it had given off the anterior communicating branch. The aneurysm was of about the size of a small cherry; it had exercised so much pressure upon the brain substance that it could be seen bulging into one end of the left lateral ventricle, the small mass of blood clots that it contained showing up through the thin wall of the aneurysmal sac. In this region it had caused a certain amount of disorganisation of the adjacent brain substance and the inner wall of the left ventricle showed much ploughing-up. On the other hand, it had crossed the middle line to exert pressure on the right optic nerve. All round the optic nerves the brain showed a considerable amount of brown staining. The blood from the aneurysm took the path usually pursued by it in aneurysms rupturing at the base of the brain. Instead

of tearing through the pia mater the blood was extravasated between that membrane and the brain substance; it tracked round the optic chiasma and pons to the side of the medulla and thence poured by way of the iter into the ventricles.

The diagnosis of ruptured cerebral aneurysm was based on the sudden onset with vomiting and occipital headache, together with the remission of the symptoms. The blindness of the right eye appeared to be a disturbing factor in the diagnosis; it was, presumably, explained post mortem by the pressure of the aneurysm on the right optic nerve. A specimen is preserved in the University College Museum in which the same condition is present. The alternative diagnosis was that of syphilitic meningitis and the improvement in the patient's general state, concurrent with antispecific treatment, lent for a time support to that belief. It is probable that the symptoms at the onset were due to a small rupture of the aneurysm; this furnishes an explanation for the brown staining observed in the neighbourhood of the optic nerves. The aperture was plugged by blood clot and the effused blood was gradually absorbed with temporary relief to the patient's condition; then, on the sixteenth day, the second rupture took place (perhaps due to straining at stool) and death resulted. Although a history was not obtained the etiology of the aneurysm was presumably syphilitic. This is the most plausible explanation for the atheromatous and degenerative state of the arterial vessels in so comparatively young a subject and many of the recorded cases of cerebral aneurysm have a syphilitic origin.

The case is of interest owing to the rare condition and the period of 16 days that elapsed between the primary rupture of the aneurysm and the fatal issue. With regard to the first point, the anterior cerebral artery holds the fourth place in the order of frequency of aneurysms of the cerebral vessels, the middle cerebral, the basilar and the internal carotid being more commonly affected. Beadles,[1] after an exhaustive review of 555 cases of cerebral aneurysm, states that "in aneurysms of the anterior cerebral and anterior communicating arteries the number in which definite cerebral symptoms occurred is so trifling and so vague that most certainly such an aneurysm is impossible of diagnosis." In this case, however, definite signs, the expression of a grave cerebral lesion, were present. The first symptom of the aneurysm was its partial rupture. This, of course, obtains in many of the cases recorded in the literature, the other types being (*a*) those in which no symptoms existed during life and the patient succumbed to some intercurrent disease; and (*b*) those cases where the apoplectiform seizure was preceded by pressure symptoms and signs simulating those given by a cerebral tumour.

As a rule, rupture of the aneurysm is followed by speedy death, and if the terminal event is delayed the interval between the primary and secondary rupture of the aneurysm is not of the duration noted here. In van der Byl's[2] case of rupture of the posterior cerebral the patient was taken to Middlesex Hospital, having fallen down in the street in a fit and having died while in the waiting room. Dr. J. Rose Bradford[3] records a case of aneurysm of the basilar artery in which the patient lived for 40 hours from the onset of his symptoms, and he draws attention to the long survival between the first and second rupture. Optic neuritis and absent knee-jerks are no new features in the physical signs that a cerebral aneurysm may present.

In conclusion, I must express my thanks to Dr. Rose Bradford for his kindness in permitting me to publish the case.

Brompton, S.W.

[1] Aneurysms of the Larger Cerebral Arteries, Brain, 1907, p. 285.
[2] Transactions of the Pathological Society of London, 1855-56, vol. vii., p. 129.
[3] Aneurysm of the Basilar Artery, Transactions of the Clinical Society of London, vol. xxviii., 1895.

THE RESEARCH DEFENCE SOCIETY.—A public meeting in connexion with the Research Defence Society will be held in St. William's College, York, on Friday, Dec. 11th, at 3.30 P.M., when a lecture will be given by Mr. Stephen Paget on the work which has been done. The following amongst others have signified their intention of being present:—Lord Deramore, the Dean of York, Canon Watson, Canon Robinson, Rev. C. C. Bell, Mr. W. H. Jalland, Dr. F. Shann, Dr. R. Turner, Dr. Macdonald, Mr. E. R. Dodsworth, and Mr. H. V. Scott. The honorary secretary of the York branch is Mr. Gerald S. Hughes.

A NOTE ON THE BACTERIAL CONTAMINATION OF MILK AS ILLUSTRATING THE CONNEXION BETWEEN FLIES AND EPIDEMIC DIARRHŒA.

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MY views on this subject are well known and on some future occasion I shall revert to the whole matter. The object of the present communication is to record briefly the results of two simple experiments which I made in the summer of 1907.

I. The first was undertaken on a warm day in August, 1907, as follows. Two well-cleansed saucers were three-fourths filled with milk from the ordinary household supply. [This supply is subject to rather stringent conditions under guarantee.] One saucer was then covered over with a clean plate, the other was left exposed, both being placed on the same table in the kitchen. Some flies were observed in the room. Apart from the circumstance that one saucer was covered and the other uncovered, both were under identical conditions as to temperature, &c. Five hours later the uncovered milk was found to contain the bodies of two flies, and I proceeded to subject both milks to bacteriological tests, the results of which may be summarised as follows (both samples being kept covered, after the removal of the two flies which were in the sample which had been exposed for five hours):—

Sample.	Number of bacteria per c.c. (as estimated from gelatin plate by naked-eye examination after 42 hours' incubation at 22° C. Dilution = 0·0001 c.c. original milk).	Tauro-cholate broth cultivation 0·0001 c.c. after 18 hours.	Glucose bile salt litmus broth 0·001 c.c. original milk.		Anaerobic milk culture for spores.
			Acid.	Gas.	
A (uncovered) containing two flies.	7,425,000 (after five hours' exposure).	Uniform turbidity.	+	+ ¾	–
B (covered over).	3,100,000 (after five hours covered over).	„	+	+ ¼	–

These results indicate that in five hours on a warm day milk exposed to flies contained millions more of gas-forming bacteria than the same milk kept covered over.

The following observations are significant of the *physical* deterioration of the exposed fly-containing milk as compared with the protected milk (both samples being kept covered, after the removal of the two flies which were in the sample which had been exposed for five hours):—

Sample.	August 15th, after 24 hours.	August 16th, after 48 hours.	August 17th, after 72 hours.
A	Slight putrefactive odour.	Stinking odour more marked; milk clotted.	Odour still more marked; milk acid.
B	No odour.	Milk clotted; ordinary smell of sour milk.	No putrefactive odour; only that of lactic acid fermentation.

II. The second experiment was made in September, 1907. The temperature was 72° F. in the laboratory. Two portions of the same sample of milk hereafter referred to as C and D were placed in the same room in a cottage in which flies were present. Sample C stood exposed from 4 P.M. on the 11th until 8 A.M. on the 12th. Sample D was covered over but otherwise subject to exactly similar conditions. Both samples were subjected to bacteriological tests at 4 P.M. on the 12th. [With regard to the physical condition, the exposed milk—Sample C—contained two flies floating in it. It was observed that the ovipositors of these flies were completely extruded in each fly. The milk had a slight putrefactive odour and already there was a tendency to clot.

The covered milk—Sample D—looked and smelt quite fresh.] The bacteriological condition was as follows:—

Sample.	Number of aerobic organisms capable of growth on gelatin at room temperature after 40 hours.	Growth in peptone broth at 37° C. 0·0001 c.c.	Glucose broth at 37° C. 0·0001 c.c.		Lactose broth at 37° C. 0·0001 c.c.		Agar slope at 37° C. 0·0001 c.c.	Litmus whey at 37° C.
			Acid.	Gas.	Acid.	Gas.		Acid.
C (exposed milk).	72,600,000	Growth + scum.	+	No note.	+	+	70 colonies.	+
D (covered milk).	24,640,000	Growth + scum.	+	No note.	++	+	7 colonies.	No note.

These results again prove a marked and rapid deterioration of milk exposed to flies, there being in the course of 24 hours no fewer than approximately 40,000,000 more bacteria per cubic centimetre in the exposed milk, and ten times as many organisms capable of growing on agar at the body temperature (37° C.). In round numbers the exposed milk showed 700,000 bacteria per cubic centimetre capable of growing at 37° C. against only 70,000 bacteria in the case of the milk protected from flies.

A further experiment showed that under anaerobic conditions the exposed milk (C) contained spores which on development in milk produced both gas and clot, while the covered milk (D) showed clot alone but no gas.

Remarks.—The importance of protecting milk from flies is illustrated by these experiments. It can readily be understood that the larger the number of flies the greater would be the pollution. It is not difficult to realise how in a fly-ridden district diarrhœal diseases may be in excess unless care is taken to see that food-supplies (especially milk) are protected from the contaminating attentions of flies.

The experiments were undertaken on the lines of natural conditions obtaining in houses, so as to include the natural factors of symbiosis or antagonism of bacteria already existing in an ordinary milk-supply. A point I wish to make is that the number of putrefactive bacteria in milk is of great importance. The chemical changes produced in milk by, say, *thousands* of putrefactive bacteria may perhaps not be sufficient to cause serious diarrhœa, while the chemical changes produced by *millions* of such bacteria may conceivably be very prejudicial and excite acute diarrhœa.

A word as to treatment.—The facts indicate the wisdom of early expulsion of the bacteria and their toxic products by a large dose of castor oil which should, in my judgment, be followed by small doses—say, ten grains—of sulphate of soda every two hours dissolved in sterilised (boiled) water. No food should be given for six or eight hours, and then only *sterilised whey*, commencing with small quantities, gradually increasing same. The utmost care should be taken that all milk used for artificially fed infants should at all times be scrupulously protected from fly contamination, especially in dealing with an infant suffering from or convalescent from epidemic diarrhœa.

Norwich.

A CASE OF TRAUMATIC EXOPHTHALMOS.

BY DAVID RANKEN, M.B., B.S. LOND. & DURH., M.R.C.S. ENG., L.R.C.P. LOND.,
HOUSE SURGEON TO THE SPECIAL DEPARTMENTS, ROYAL VICTORIA INFIRMARY, NEWCASTLE-ON-TYNE.

THE patient was brought to the Royal Victoria Infirmary, Newcastle-on-Tyne, on August 13th last, with the following history. He was driving a waggon whilst sitting on the shaft when the horse, which happened to be young and restive, lashed out suddenly with one of its hind legs, striking him in the face and knocking him over. His left eye was immediately dislocated forward beyond the lids, and directly afterwards he lost consciousness. About a quarter of an hour afterwards he came to himself and was sick, but felt no pain. The eye still remained protruding from the orbital cavity. Within the next hour he was brought to the hospital and whilst being examined again vomited.

On admission the patient was quite conscious and was able to answer questions intelligently. His pulse was good. There was epistaxis from both nostrils. On the left cheek there were several gashes, one extending into the ala of the nose, and obviously produced by the horse's hoof. The left eyeball protruded well beyond the lids. There was hyphæmia and the bulbar conjunctiva was torn all round in a neat circle quite close to the corneal margin. The sclera was intensely injected and the lids were swollen but not lacerated. No sight whatever remained in the eye. The left cheek was painful to the touch and one was unable to make out by palpation the normal outline of the left side of the face. Crepitus of the nasal bone and the nasal process of the superior maxilla was present. The patient had great pain and difficulty on attempting to open his mouth. The teeth outline was normal and there was no hæmorrhage either from the mouth or ears. Attempts to replace the eye were desisted from because of the pain they caused.

Under chloroform the eye could be easily replaced in the orbital cavity, but slight pressure on the lids was sufficient to luxate it forwards again. One was able to detect with the finger in the left nostril great comminution of the inner wall of the antrum of Highmore. The outline of the orbital plate of the superior maxilla on the face was lost. It was decided to remove the eye, and the recti muscles were divided in the ordinary way. On exposing the optic nerve it was found to be loose, and after dividing the rest of the structures connecting the eyeball with the orbital cavity one was able to draw out exactly two inches of nerve, still firmly connected with the eyeball, but with the cranial end severed as if with a sharp knife. Very little bleeding ensued. The wounds in the cheek were sutured with horse-hair, a sponge was left over the left eyelids, and the nostrils were loosely packed with gauze wrung out of a perchloride of mercury solution.

Recovery was uninterrupted. There was some serous oozing from the eye and nostrils during the next few days. Ten days later the patient left the hospital. He was seen eight weeks after the operation when he stated that he had been working then for some weeks past. The wounds in his cheek were quite healed, his left orbital cavity presented the appearance as after an ordinary excision, and he could open his mouth quite wide.

Fracture of the anterior fossa of the skull with severance of the optic nerve is not a common accident, but when complicated with complete exophthalmos becomes one of extreme rarity. The average length of the optic nerve is 5 centimetres, or about two inches, and hence it must have been severed in this case just at its origin from the optic chiasma, in all probability when passing through the optic foramen. The fracture of the superior maxilla on that side was an additional complication.

This case was under the care of Mr. J. D. Wardale, ophthalmic surgeon to the hospital, and I am indebted to him for permission to publish these notes.

Newcastle-on-Tyne.

EXTENSION OF A PLEURAL EFFUSION TOWARDS THE SOUND SIDE IN A STILL-BORN CHILD

CORRESPONDING TO GROCCO'S PARAVERTEBRAL TRIANGLE.

BY ROBERT D. KEITH, M.A., M.D. ABERD.,
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CONSERVATOR OF MUSEUM, ROYAL COLLEGE OF SURGEONS OF ENGLAND

THE subject of this note was a still-born child, probably of Chinese parentage, found in the streets of Singapore and investigated by us with a view of discovering the cause of the anasarcous condition of its tissues. In this we were not successful; the ductus venosus which was found absent in a similar case was here present; the heart also was normally formed; the tissues of the body, especially the kidneys, were extensively invaded with leucocytes.

Our main reason for recording the case is that it supports those who regard Grocco's paravertebral triangle of dulness as due to a direct extension of the pleural fluid or contents from the diseased towards the sound side. A reference to

of tearing through the pia mater the blood was extravasated between that membrane and the brain substance; it tracked round the optic chiasma and pons to the side of the medulla and thence poured by way of the iter into the ventricles.

The diagnosis of ruptured cerebral aneurysm was based on the sudden onset with vomiting and occipital headache, together with the remission of the symptoms. The blindness of the right eye appeared to be a disturbing factor in the diagnosis; it was, presumably, explained post mortem by the pressure of the aneurysm on the right optic nerve. A specimen is preserved in the University College Museum in which the same condition is present. The alternative diagnosis was that of syphilitic meningitis and the improvement in the patient's general state, concurrent with antispecific treatment, lent for a time support to that belief. It is probable that the symptoms at the onset were due to a small rupture of the aneurysm; this furnishes an explanation for the brown staining observed in the neighbourhood of the optic nerves. The aperture was plugged by blood clot and the effused blood was gradually absorbed with temporary relief to the patient's condition; then, on the sixteenth day, the second rupture took place (perhaps due to straining at stool) and death resulted. Although a history was not obtained the etiology of the aneurysm was presumably syphilitic. This is the most plausible explanation for the atheromatous and degenerative state of the arterial vessels in so comparatively young a subject and many of the recorded cases of cerebral aneurysm have a syphilitic origin.

The case is of interest owing to the rare condition and the period of 16 days that elapsed between the primary rupture of the aneurysm and the fatal issue. With regard to the first point, the anterior cerebral artery holds the fourth place in the order of frequency of aneurysms of the cerebral vessels, the middle cerebral, the basilar and the internal carotid being more commonly affected. Beadles,[1] after an exhaustive review of 555 cases of cerebral aneurysm, states that "in aneurysms of the anterior cerebral and anterior communicating arteries the number in which definite cerebral symptoms occurred is so trifling and so vague that most certainly such an aneurysm is impossible of diagnosis." In this case, however, definite signs, the expression of a grave cerebral lesion, were present. The first symptom of the aneurysm was its partial rupture. This, of course, obtains in many of the cases recorded in the literature, the other types being (*a*) those in which no symptoms existed during life and the patient succumbed to some intercurrent disease; and (*b*) those cases where the apoplectiform seizure was preceded by pressure symptoms and signs simulating those given by a cerebral tumour.

As a rule, rupture of the aneurysm is followed by speedy death, and if the terminal event is delayed the interval between the primary and secondary rupture of the aneurysm is not of the duration noted here. In van der Byl's[2] case of rupture of the posterior cerebral the patient was taken to Middlesex Hospital, having fallen down in the street in a fit and having died while in the waiting room. Dr. J. Rose Bradford[3] records a case of aneurysm of the basilar artery in which the patient lived for 40 hours from the onset of his symptoms, and he draws attention to the long survival between the first and second rupture. Optic neuritis and absent knee-jerks are no new features in the physical signs that a cerebral aneurysm may present.

In conclusion, I must express my thanks to Dr. Rose Bradford for his kindness in permitting me to publish the case.

Brompton, S.W.

[1] Aneurysms of the Larger Cerebral Arteries, Brain, 1907, p. 285.
[2] Transactions of the Pathological Society of London, 1855-56, vol. vii., p. 129.
[3] Aneurysm of the Basilar Artery, Transactions of the Clinical Society of London, vol. xxviii., 1895.

THE RESEARCH DEFENCE SOCIETY.—A public meeting in connexion with the Research Defence Society will be held in St. William's College, York, on Friday, Dec. 11th, at 3.30 P.M., when a lecture will be given by Mr. Stephen Paget on the work which has been done. The following amongst others have signified their intention of being present:—Lord Deramore, the Dean of York, Canon Watson, Canon Robinson, Rev. C. C. Bell, Mr. W. H. Jalland, Dr. F. Shann, Dr. R. Turner, Dr. Macdonald, Mr. E. R. Dodsworth, and Mr. H. V. Scott. The honorary secretary of the York branch is Mr. Gerald S. Hughes.

A NOTE ON THE BACTERIAL CONTAMINATION OF MILK AS ILLUSTRATING THE CONNEXION BETWEEN FLIES AND EPIDEMIC DIARRHŒA.

BY J. T. C. NASH, M.D. EDIN., D.P.H. CANTAB.,
COUNTY MEDICAL OFFICER OF HEALTH OF NORFOLK.

MY views on this subject are well known and on some future occasion I shall revert to the whole matter. The object of the present communication is to record briefly the results of two simple experiments which I made in the summer of 1907.

I. The first was undertaken on a warm day in August, 1907, as follows. Two well-cleansed saucers were three-fourths filled with milk from the ordinary household supply. [This supply is subject to rather stringent conditions under guarantee.] One saucer was then covered over with a clean plate, the other was left exposed, both being placed on the same table in the kitchen. Some flies were observed in the room. Apart from the circumstance that one saucer was covered and the other uncovered, both were under identical conditions as to temperature, &c. Five hours later the uncovered milk was found to contain the bodies of two flies, and I proceeded to subject both milks to bacteriological tests, the results of which may be summarised as follows (both samples being kept covered, after the removal of the two flies which were in the sample which had been exposed for five hours):—

Sample.	Number of bacteria per c.c. (as estimated from gelatin plate by naked-eye examination after 42 hours' incubation at 22° C. Dilution = 0·0001 c.c. original milk).	Tauro-cholate broth cultivation 0·0001 c.c. after 18 hours.	Glucose bile salt litmus broth 0·001 c.c. original milk.		Anaerobic milk culture for spores.
			Acid.	Gas.	
A (uncovered) containing two flies.	7,425,000 (after five hours' exposure).	Uniform turbidity.	+	+ ¾	–
B (covered over).	3,100,000 (after five hours covered over).	,,	+	+ ¼	–

These results indicate that in five hours on a warm day milk exposed to flies contained millions more of gas-forming bacteria than the same milk kept covered over.

The following observations are significant of the *physical* deterioration of the exposed fly-containing milk as compared with the protected milk (both samples being kept covered, after the removal of the two flies which were in the sample which had been exposed for five hours):—

Sample.	August 15th, after 24 hours.	August 16th, after 48 hours.	August 17th, after 72 hours.
A	Slight putrefactive odour.	Stinking odour more marked; milk clotted.	Odour still more marked; milk acid.
B	No odour.	Milk clotted; ordinary smell of sour milk.	No putrefactive odour; only that of lactic acid fermentation.

II. The second experiment was made in September, 1907. The temperature was 72° F. in the laboratory. Two portions of the same sample of milk hereafter referred to as C and D were placed in the same room in a cottage in which flies were present. Sample C stood exposed from 4 P.M. on the 11th until 8 A.M. on the 12th. Sample D was covered over but otherwise subject to exactly similar conditions. Both samples were subjected to bacteriological tests at 4 P.M. on the 12th. [With regard to the physical condition, the exposed milk—Sample C—contained two flies floating in it. It was observed that the ovipositors of these flies were completely extruded in each fly. The milk had a slight putrefactive odour and already there was a tendency to clot.

The covered milk—Sample D—looked and smelt quite fresh.] The bacteriological condition was as follows:—

Sample.	Number of aerobic organisms capable of growth on gelatin at room temperture after 40 hours.	Growth in peptone broth at 37° C. 0·0001 c.c.	Glucose broth at 37° C. 0·0001 c.c.		Lactose broth at 37° C. 0·0001 c.c.		Agar slope at 37° C. 0·0001 c.c.	Litmus whey at 37° C.
			Acid.	Gas.	Acid.	Gas.		Acid.
C (exposed milk).	72,600,000	Growth + scum.	+	No note.	+	+	70 colonies.	+
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These results again prove a marked and rapid deterioration of milk exposed to flies, there being in the course of 24 hours no fewer than approximately 40,000,000 more bacteria per cubic centimetre in the exposed milk, and ten times as many organisms capable of growing on agar at the body temperature (37° C.). In round numbers the exposed milk showed 700,000 bacteria per cubic centimetre capable of growing at 37° C. against only 70,000 bacteria in the case of the milk protected from flies.

A further experiment showed that under anaerobic conditions the exposed milk (C) contained spores which on development in milk produced both gas and clot, while the covered milk (D) showed clot alone but no gas.

Remarks.—The importance of protecting milk from flies is illustrated by these experiments. It can readily be understood that the larger the number of flies the greater would be the pollution. It is not difficult to realise how in a fly-ridden district diarrhœal diseases may be in excess unless care is taken to see that food-supplies (especially milk) are protected from the contaminating attentions of flies.

The experiments were undertaken on the lines of natural conditions obtaining in houses, so as to include the natural factors of symbiosis or antagonism of bacteria already existing in an ordinary milk-supply. A point I wish to make is that the number of putrefactive bacteria in milk is of great importance. The chemical changes produced in milk by, say, *thousands* of putrefactive bacteria may perhaps not be sufficient to cause serious diarrhœa, while the chemical changes produced by *millions* of such bacteria may conceivably be very prejudicial and excite acute diarrhœa.

A word as to treatment.—The facts indicate the wisdom of early expulsion of the bacteria and their toxic products by a large dose of castor oil which should, in my judgment, be followed by small doses—say, ten grains—of sulphate of soda every two hours dissolved in sterilised (boiled) water. No food should be given for six or eight hours, and then only *sterilised whey*, commencing with small quantities, gradually increasing same. The utmost care should be taken that all milk used for artificially fed infants should at all times be scrupulously protected from fly contamination, especially in dealing with an infant suffering from or convalescent from epidemic diarrhœa.

Norwich.

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On admission the patient was quite conscious and was able to answer questions intelligently. His pulse was good. There was epistaxis from both nostrils. On the left cheek there were several gashes, one extending into the ala of the nose, and obviously produced by the horse's hoof. The left eyeball protruded well beyond the lids. There was hyphæmia and the bulbar conjunctiva was torn all round in a neat circle quite close to the corneal margin. The sclera was intensely injected and the lids were swollen but not lacerated. No sight whatever remained in the eye. The left cheek was painful to the touch and one was unable to make out by palpation the normal outline of the left side of the face. Crepitus of the nasal bone and the nasal process of the superior maxilla was present. The patient had great pain and difficulty on attempting to open his mouth. The teeth outline was normal and there was no hæmorrhage either from the mouth or ears. Attempts to replace the eye were desisted from because of the pain they caused.

Under chloroform the eye could be easily replaced in the orbital cavity, but slight pressure on the lids was sufficient to luxate it forwards again. One was able to detect with the finger in the left nostril great comminution of the inner wall of the antrum of Highmore. The outline of the orbital plate of the superior maxilla on the face was lost. It was decided to remove the eye, and the recti muscles were divided in the ordinary way. On exposing the optic nerve it was found to be loose, and after dividing the rest of the structures connecting the eyeball with the orbital cavity one was able to draw out exactly two inches of nerve, still firmly connected with the eyeball, but with the cranial end severed as if with a sharp knife. Very little bleeding ensued. The wounds in the cheek were sutured with horse-hair, a sponge was left over the left eyelids, and the nostrils were loosely packed with gauze wrung out of a perchloride of mercury solution.

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Newcastle-on-Tyne.

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Our main reason for recording the case is that it supports those who regard Grocco's paravertebral triangle of dulness as due to a direct extension of the pleural fluid or contents from the diseased towards the sound side. A reference to

Figs. A and B will make our meaning clear. In Fig. A the contents of the thoracic cavity are exposed from behind. The left pleural cavity is distended by a pleural effusion, the left lung being compressed towards its root, and the posterior mediastinal mesentery, formed by the approximated leaflets of the right and left pleuræ between the œsophagus and aorta, bulges towards the right so as to compress the base of the right lung. The extension of the posterior mediastinal mesentery is best seen in the transverse section shown in Fig. B, *b*. The heart also is forced towards the right, pressing against the root of the right lung, while the left lobe of the thymus is pushed upwards into the root of the neck. It will be observed that the extension of the left pleural cavity across the line of the spinal column is triangular in shape; its base is below, behind the diaphragm, its apex above at the level of the roots of the lungs. Above the roots of the lungs the line of separation between right and left pleural cavities is normal in position. Were such a chest to be percussed out an area of dulness to the right of the mid-line of the spine and corresponding to Grocco's triangle should be found.

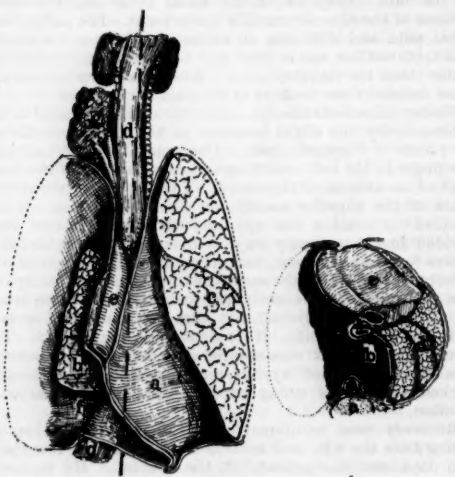


Fig. A. The contents of the thoracic cavity exposed from behind. The line of the spinal column is indicated *.....*. *a*, the posterior mediastinal mesentery bulging into the right pleural cavity; *b*, compressed left lung; *c*, right lung compressed at its base; *d*, œsophagus; *e*, aorta; *ff*, left pleural cavity; *g*, left half of the thymus pushed into neck.
Fig. B. Section of thoracic contents. *a*, on body of vertebra; *b*, left pleural cavity extending to right; *c*, œsophagus and inferior vena cava; *d*, right lung; *e*, right ventricle.

The condition of parts corresponds exactly to the description given by Professor G. Elliot Smith,[1] only that the case examined by him was an adult and the pleural effusion on the right side. He explains the triangular shape of the pleural extension as due to a pendulum-like movement of the contents of the thorax, the collection of fluid in the basal part of the right pleural cavity causing the thoracic contents to swing to the left. All other observers, so far as we know, have dealt with the causation of Grocco's triangle from a clinical and physical point of view. Dr. W. Ewart, who was the first in this country to explain the clinical signs of Grocco's triangle, ascribed it to the pleural effusion acting as a mute and preventing the vertebral column from conducting the pulmonary resonance. Dr. F. W. Forbes-Ross[2] regards Grocco's triangle as a "physical necessity of the anatomical conformation of the posterior chest wall"; Roch and Dufour[3] reach practically the same conclusion. Like Dr. Forbes-Ross they ascribe the triangle of dulness chiefly to the musculature of the back. Dr. Ewart in a later paper[4] notes the fact that a similar triangle is present in case of subphrenic abscess. He believes that the fluid content of such an abscess acts, like a pleural effusion, as a mute on the spinal column. On theoretical grounds we should expect a subphrenic abscess to produce Grocco's triangle, but in a manner different from that supposed by Dr. Ewart. Recently Dr. W. Pasteur[5] has dealt with "massive collapse" of the base of the lung as a sequence of subphrenic abscess and other abdominal inflammatory states; he ascribes, and we think rightly, the pulmonary collapse to a cessation of action and relaxation of the diaphragm on the diseased side, a reflex inhibition following on the subphrenic inflammation. The dome of the diaphragm on the diseased side is found to be raised upwards; there is a considerable diminution of the pleural space on the diseased side, with a corresponding loss of the elastic traction of the basal part of the lung. On the basal part of the sound side there is the usual negative pressure, with the result that the collapsed basal part of the lung on the diseased side is drawn towards the sound side, giving rise to a triangular area of dulness.

Another reason for placing this case on record is again to draw attention to the clinical and physiological importance of the structure named here, the posterior mediastinal mesentery, described and figured by one of us in these pages some five years ago.[6] It corresponds to the translucent triangle seen in the corresponding part of the thorax when the patient is examined in a suitable position by the aid of x rays. This mesentery has been overlooked by anatomists owing to the body being hardened and always examined in the supine position, when the heart and mediastinal contents are pressed backwards against the spine. It can be well demonstrated during the course of a post-mortem examination when the sternum and costal cartilages are removed. If the pericardium with its contents be then lifted forwards the posterior mediastinal mesentery will be seen to stretch from the pericardium to the spine and to have a front to back extent of from one to two inches. In our opinion Professor Elliot Smith is justified in applying the term pendulum-swing to the contents of the thorax; when a full breath is taken the heart and roots of the lungs can be seen to move forwards and downwards following the direction taken by the descending diaphragm. To permit that movement the posterior mediastinal mesentery must be slack and long; it is its slackness and extensibility that permit so free and easy an extension of the contents of one pleural cavity towards the side which has the higher negative pressure; the mesentery being triangular in shape, apex above and base below, retains that outline when pressed into the sound side by a collection of fluid on the diseased side, thus giving rise to a triangle of dulness such as is described by Grocco. We believe that those who have described this condition in sound normal individuals have used a light method of percussion and elicited the triangular dulness yielded by the erector spinæ.

[1] THE LANCET, Sept. 28th, 1907, p. 890.
[2] THE LANCET, June 29th, 1907, p. 1773.
[3] La Semaine Médicale, No. 43, 1908.
[4] See Annotation, THE LANCET, Jan. 18th, 1908, p. 172.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

MEDICAL SECTION.

Resistance of Arteries to External Pressure.—An Excitant for Leucocytes of Healthy Persons in the Blood Plasma of Patients Suffering from Carcinoma.

A MEETING of this section was held on Nov. 24th, Dr. S. J. GEE, the President, being in the chair.

Dr. W. P. HERRINGHAM and Mr. F. WOMACK, from the Physics Laboratory of St. Bartholomew's Hospital, communicated a paper on the Resistance of Arteries to External Pressure, detailing experiments on the value of the sphygmomanometer as a test of the blood pressure. Small glass tubes were tied into arteries removed from dead bodies and connected with a water-pressure system on which was interpolated a mercury manometer. The artery was placed inside a large glass tube closed at each end by perforated rubber corks through which the small tubes ran. The large outer tube was connected with a reservoir of water, and through this with a column of mercury, by which pressure inside the large tube and outside the artery could be measured. The pressure inside the artery when the system was open was

[5] THE LANCET, Nov. 7th, 1908, p. 1351.
[6] THE LANCET, March 7th, 1903, p. 633.

about 93 mm. Hg, and that outside was gradually raised until the flow through the artery ceased. The difference between the external and the internal pressure was taken as the measure of arterial resistance. The arteries experimented with were the common carotid, the external iliac, and the brachial. 49 male cases were thus examined, and in 36 of these the brachials were tested. In five of the 36 both brachials were tested, making 41 arteries in all. Of the 36, seven were under 30, eight were under 40, 13 were under 50, seven were under and 12 were over 60 years of age. The results showed that the resistance did not vary with age, that at every age exceptional cases occurred, that the extremes varied greatly and irregularly, and that the two brachials might differ by as much as 10 mm. Hg. The same was found to be true of the carotids and iliacs. Moreover, in 21 carotids the resistance to internal pressure was measured as well as that to external. It might be expected that an artery which dilated easily when its internal pressure was raised could also be easily compressed from outside. It was not so. The two forms of resistance did not vary together. The same was true for the iliacs. No connexion could be made out between the fatal disease and the resistance. The conclusions were that when using the sphygmomanometer they must bear in mind that the resistance of the wall of the brachial artery might vary from 4 mm. to 34 mm. Hg; that the readings of the instrument represented the sum of the blood pressure, together with the resistance of the artery; and that they had as yet no clue which would enable them to analyse this total into its two component parts.—Dr. LEONARD E. HILL related the results of some experiments carried out at the London Hospital Medical College by Mr. Martin Flack and himself on the question under discussion. Their method was to investigate the condition of the arteries in the living person. Some experiments by that method had been done by Mr. Charles Martin and it was found that the amount of pressure required to obliterate the wall of an artery was equal to only a few millimetres of mercury. He (Dr. Hill) also referred to the work of MacWilliam in the same direction recorded in the Transactions of the Royal Society. Dr. Hill then fitted up before the members of the section his laboratory assistant with two armlets connected to two independent manometers and demonstrated the blood pressure by independent readings. He stated that there was high pressure in the veins, very high pressure in the arteries, and an exceedingly low pressure in the capillary system.—Dr. GEORGE OLIVER, in the course of his remarks, admitted that cases did occur sometimes in which differences of from 15 to 20 mm. Hg were observed between the two brachial arteries after the greatest precautions had been taken to avoid disturbing factors.—Sir LAUDER BRUNTON said that it was just possible that rigor mortis in the muscular coats of the arteries might have something to do with the differences observed in the pressure.—Mr. J. P. L. MUMMERY thought that it was dangerous to draw conclusions from arteries removed from the body.—Sir T. CLIFFORD ALLBUTT said that the disease from which a subject died and the time of death might render the experiments fallacious.—Dr. HERRINGHAM in the course of his reply said that what he wanted to do was to take some more of these post-mortem arteries, to relax them with sodium chloride, and then to try again and see if the anomalies recorded took place.

Dr. C. J. MACALISTER and Mr. H. C. ROSS of the Royal Southern Hospital, Liverpool, communicated a paper on an Excitant for the Leucocytes of Healthy Persons in the Blood Plasma of Patients Suffering from Carcinoma. They suggested that carcinoma was due to a change in the blood and evidence was given in favour of this view. Cancer frequently appeared in "tidal" organs such as the breast, uterus, &c., and its frequency after irritation and trauma was noted with the fact that all of these conditions were associated with an increased blood-supply to the parts. Since all persons who received injury or suffered from chronic local irritative conditions did not get cancer, the supposition was advanced that another factor, a metabolic change in the blood, was necessary for its production. Reference was made to the works of Loeb and Moore respecting the effects of altered chemistry upon the growth and reproduction of cells. Heredity in cancer would be well explained by a theory which involved a chemical change in the blood and there was a probability that nervous influences and perhaps some antecedent disease might lead to similar changes. Moore said that the blood of all cancer patients was more alkaline than normal, and symptoms resembling those of an alkaloid-like toxæmia were referred to as occurring in cancer patients. While a recently discovered stimulant for leucocytes was being demonstrated, a discussion arose as to the nature of this artificial stimulant. It was pointed out that, in the presence of an alkali, an alkaloid such as atropine must be added to methylene blue to produce stimulation. The connexion between this fact and the alkaloid-like toxæmia, with increase of alkalinity of the plasma of cancer patients, was striking. It was therefore suggested that there might be in cancer a stimulant in the plasma which might play a part in the causation of the disease. After giving evidence that cancer was not an infective disease, experiments were referred to by which it was ascertained that the plasmata of a series of cancer patients stimulated the leucocytes of healthy persons when mixed in certain proportions. This stimulation appeared to be identical with that caused by the artificial stimulant. A large number of control experiments gave negative results except in two patients who had been taking quinine. Attention was directed to the fact that the constituents of the artificial stimulant were coal-tar derivatives and to the incidence of cancer among coal-tar workers. Reference was made to the work of other observers which showed that asymmetrical mitoses, identical with those seen in cancer, could be produced in some epithelial cells by certain alkaloids and coal-tar derivatives.—After Mr. ROBERT JONES (Liverpool) had given an instance showing the value of the method for the purpose of diagnosis, Mr. ROSS described the details of the methods of the investigation.

THE SOCIETY OF TROPICAL MEDICINE AND HYGIENE.

Elephantiasis treated by Lymphangioplasty.—Bilharziasis.—The Sigmoid Flexure and Rectum in Post-Dysenteric Cases.

A MEETING of this society was held on Nov. 20th, Sir PATRICK MANSON, the President, being in the chair.

Mr. W. S. HANDLEY showed a case of Elephantiasis of the Left Leg treated by Lymphangioplasty, an account of which will be published in THE LANCET.

Dr. F. M. SANDWITH demonstrated a small exhibit of Bilharziasis preparations, mostly from Egypt. Dr. S. Kartulis of Alexandria had lately sent to him a valuable specimen of kidney, ureters, and bladder, together with a rectum showing well-marked papillomata from another case. Dr. Sandwith drew attention to the fact that the ureters were affected with multiple excrescences throughout their whole length, though it was usually only the lower half of the ureters which showed great bilharzial change. Another bladder, presented to the museum of the London School of Tropical Medicine by Professor A. R. Ferguson (Cairo), showed very advanced disease with great thickening and distortion of the organ, while the condition both clinically and histologically was locally malignant. Another of Professor Ferguson's gifts was a section of liver showing bilharzial cirrhosis; the new formation of connective tissue was practically confined to the neighbourhood of the portal veins, while a large tributary of the hepatic vein was seen unaffected by the change. The cut surface of the liver looked somewhat as if the stems of some white clay pipes had been thrust through it at various angles. There was no prominence of the liver lobules or retraction of the capsule as seen in other forms of cirrhosis of the liver. Microscopically the liver showed an increase of the peri-portal connective tissue of the sub-lobular and larger portal canals, some of the fibres of which were arranged concentrically round the eggs of the parasite. Eggs found in the liver often consisted only of the shell with lateral spine, and no eggs were seen lying free among the hepatic cells, or usually in the larger blood-vessels which traverse the cirrhotic tissue. Under the microscope were placed the eggs of the schistosomum hæmatobium from the bladder, ureter, and lung; the eggs in the lung were shown to illustrate the rarity of eggs being found in this organ. When eggs were found they were few in number and appeared to result from a couple of worms which had accidentally lost their way in trying to reach the bladder or rectum. Under

another microscope were shown on a warm stage some eggs from fresh urine developing embryos, the urine having been kindly supplied by Fleet-Surgeon P. W. Bassett-Smith, R.N., from Haslar Hospital. Dr. Sandwith also showed a series of photographs of the natural history and pathological results of the worm and exhibited a model of Mr. Owen Richards's vesical calculus weighing nearly 32 ounces.[1] As it has so often been stated that stones in the Egyptian bladder are directly caused by a nucleus of bilharzia eggs, for which idea there seems to be little or no foundation, Dr. Sandwith pointed out that in the Egyptian peasant, from whom this stone was removed by piecemeal extraction with osteotome and mallet above the pubes, with free perineal drainage, no bilharzia eggs were found in the urine either before or after the operation. By the side of this stone was shown a model of Mr. H. M. N. Milton's calculus, which alone surpassed it as the largest ever successfully removed from a living patient. Mr. Milton's stone weighed 34½ ounces, and was extracted whole by abdominal section.[2] The original stones both lie in the Museum of the Royal College of Surgeons of England.

Mr. J. CANTLIE read a paper on Lesions of the Rectum and Sigmoid Flexure met with in Post-dysenteric and other cases of Intestinal Flux. He said that before describing the pathological states of the rectum and sigmoid flexure it was necessary to draw attention to certain anatomical details which were essential to the better understanding of the lesions of this part of the alimentary canal. From clinical observations gathered during examinations of the rectum by the sigmoidoscope he was induced to examine the rectum and sigmoid flexure anatomically more closely in order to ascertain if an explanation could thereby be afforded of certain frequently occurring conditions, more especially in post-dysenteric diarrhœa. Shortly the results of his anatomical observations were these:—1. That at the junction of the sigmoid flexure and rectum in the normal bowel of the adult a well-marked narrowing took place which had for its basis a ring of thickened circular muscular fibres of the intestine and a blending of the longitudinal muscular bands at the same spot. These conferred upon the narrowing referred to an action similar to the pylorus of the stomach and he had named this the "sigmo-rectal pylorus." The functions of this opening were retentive to the contents of the colon and prevented the fæces accumulating and pressing upon the anus, thereby doing away with the constant feeling of the desire to defæcate which fæces in the rectum always induced. 2. The junction of the colon and sigmoid flexure presented another narrowing with similar anatomical features which he had named the "colo-sigmoid pylorus." This upper opening, less narrow than the lower or sigmo-rectal pylorus, assisted in the retention of the fæces in the colon and served to mould the fæces to the rounded shape which they assumed in normal stools. 3. At the insertion of the levator ani into the rectum about half way up there was a functional narrowing of the rectum caused by the action of the muscle. When this muscle was relaxed they had the ballooning of the rectum but the causes of this relaxation and consequent ballooning in certain conditions of the rectum were not yet known. So that proceeding from below upwards they had: (*a*) the anal sphincters for one and a half inches; (*b*) a tubular portion of the tube with a longitudinally arranged mucous membrane for some two and a half inches; (*c*) the insertion of the levator ani; (*d*) a puckered portion of the rectum with a sacculated mucous membrane for four inches; (*e*) the sigmo-rectal pylorus; (*f*) a dilatation behind this pylorus with a mucous membrane in irregular folds; (*g*) the upper or colo-sigmoid pylorus; and (*h*) the descending colon. The lesions of the lower part of the bowel might be arranged under three headings: 1. Lesions acting on the rectum and sigmoid flexure from without. Short of causing actual obstruction, these caused what might be called passive shedding of mucus seen especially in intestinal casts. A pregnant uterus, a retroverted or retroflexed uterus attended by increased size of the organ, fibroids of the uterus, ovarian tumours, inflammatory adhesions around the left ovary, tumours of the pelvic walls, tumours of the omentum, appendicitis, aneurysm of the left iliac arteries, enlargement of the left kidney whether from cystic disease or hydronephrosis, in fact, any pressure from without might not only be associated with mucus in the fæces but might induce retention and a diarrhœa of retention. It was necessary, therefore, in all cases of persistent mucus in the stools not associated with a previous history of dysentery and with absence of blood in the mucus combined with a fair state of health to examine for abdominal lesions extraneous to the bowel. 2. Lesions might arise in the wall of the bowel. The most common of these were malignant disease or fibrous stricture but it was possible that both of these were secondary to troubles arising within the gut itself. 3. In regard to lesions arising within the bowel it was difficult in the present state of our knowledge to separate 2 from 3 in this enumeration, for although they knew that thread-worms, bilharzia, and factors of this nature induced changes in the intestinal walls it was difficult to state whether the several lesions which determined intestinal flux were due to ingested contents or whether the attendant causes primarily attacked the mucous membrane. Of the lesions met with in the rectum which could be actually made out by inspection with the proctoscope by reflected light or through the sigmoidoscope by direct light neglecting the anal affections were: 1. An ulcer situated in the posterior aspect of the rectum about one and three-quarter inches up or just above the internal sphincter, just opposite the tip of the coccyx, which might be styled the tropical ulcer, seeing its frequency in persons who had resided in the tropics and had been the subjects of intestinal flux. It was single, rounded, punched-out looking, very painful when touched, and gave rise to the neuralgia so often complained of. It was an aggravating complication in the last stages of sprue and in many post-dysenteric conditions. It was easily cured by incisions and in many cases of troublesome intestinal flux the condition would disappear, and what seemed an incurable diarrhœa by drugs was thus readily got rid of. 2. Multiple ulcers, two to three inches from the anus, presenting a greyish dull brown appearance, sometimes with hæmorrhagic margins inclining to an oval shape with their long axes parallel to the length of intestine, were associated with irregular evacuations of a pultaceous consistence sometimes accompanied by blood in the stools, and were due to tertiary syphilis and must be treated accordingly. 3. At the sigmo-rectal pylorus was the situation at which post-dysenteric lesions were chiefly met with. Here they might find one or another of the following conditions: (*a*) an œdema of the mucous membrane. (*b*) The wall of the bowel might be studded with multiple purulent looking collections in the mucous membrane varying from the size of a pin-head to that of a split pea or larger. Associated with these might be one or several ragged ulcers covered with a whitish surface. This condition was met with in relapses of dysentery of a more or less acute nature. (*c*) Multiple ulcers of varying size with angry margins were extremely painful on the attempt being made to pass the sigmoidoscope and accompanied by spasm of the bowel rendering it impossible to push the instrument beyond them. (*d*) Infiltration of the submucous tissue with scars of old ulcers amounting to stricture of the bowel which might become even (*e*) of a fibrous character. 4. The sigmoid flexure itself when any of the lesions in the sigmo-rectal pylorus above enumerated were present was usually in a state of œdema and catarrh. For treatment when the causes of mucus in stools were situated without the bowel wall steps must be taken to deal with them on general surgical principles. When the bowel wall itself was seen to be at fault the treatment depended upon the state of the lesions met with. For general œdema of the mucous surface enemata of warm sea water (not diluted) would be found highly efficacious—that applied also to all states of the rectum associated with excess of mucus; in so-called mucous colitis sea water was serviceable. When the bowel was ulcerated in the neighbourhood of the sigmo-rectal pylorus pure carbolic acid was the most satisfactory application. When there was infiltration of the submucous tissues amounting to a strictured state of the bowel at the sigmo-rectal pylorus, accompanied by intermittent attacks of loose evacuations with a quantity of mucus, it was necessary to treat the stricture. One of the commonest conditions which they had to treat in long-standing intestinal flux succeeding dysentery was one in which after a few days or even a few weeks of apparently healthy evacuation there was a remission consisting of bulky, frequent, and very loose motions, often frothy in character, accompanied by a large quantity of mucus. This condition might last from a few days to a week or two, to be succeeded by apparently normal motions,

[1] THE LANCET, July 25th, 1908, p. 230.
[2] THE LANCET, Sept. 16th, 1893, p. 687.

followed by recurrence of unhealthy mucous stools. In all such cases a strictured state of the bowel at the sigmo-rectal pylorus would be found, and to cure it the stricture must be treated; this was accomplished by passing the tube of the sigmoidoscope up to the seat of the lesion and introducing an indiarubber bougie or œsophageal tube through the strictured portion. That must be repeated at first twice weekly for, say, three weeks and subsequently once a fortnight for some two or three months. In the intervals between the passage of the rectal tube warm sea-water injections in quantity from one pint to three pints should be thrown up the bowel once or twice weekly.—Sir HAVELOCK CHARLES observed that the size of the intestine varied greatly in different individuals, and even in healthy persons there was great variation in the resistance that was offered to the passage of instruments.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF OBSTETRICS.

Malignant Disease of the Uterus.—Fibroid Uterus.—The late Sir Arthur V. Macan.—Ectopia Vesicæ complicating Pregnancy.—Myoma and Pregnancy.—Exhibition of Specimens.

A MEETING of this section was held on Nov. 13th, Mr. E. H. TWEEDY, the President, being in the chair.

The PRESIDENT exhibited specimens from 12 cases of Malignant Disease of the Uterus, eight of which had been operated on by Wertheim's method since the last meeting of the section. The cases were not all that he had done, but they made a sad and suggestive exhibit. He had done as large a total extirpation as possible, but some of the cases were obviously not cases in which Wertheim's operation could be performed. He held that they should operate on every possible case that gave the least hope of immediate recovery, even if the immunity were only for six months.—Dr. R. D. PUREFOY agreed that operation should be attempted where there was reasonable hope of survival. Where recurrence took place it was attended with less distress and with almost absence of discharge.—The PRESIDENT, in reply, said that he had a good many more cases tabulated, but he thought it better to defer a paper for some time in order that he might be able to follow them up and see how much good had been done. He now merely recorded the present cases to show that a serious attempt was being made in the country to grapple with the awful disease of cancer of the uterus.

Dr. PUREFOY exhibited a Fibroid Uterus removed along with Hernial Sac for the relief of recurrent peritonitis. The patient, an unmarried woman, about 40 years of age, was in anything but good health at the time of the operation. She had previously undergone ovariotomy, and the cicatrix had yielded, and the case was complicated with a ventral hernia. She sought relief because she suffered from menorrhagia with recurrent peritonitis. The uterus had a layer of lymph on its anterior surface. The point of interest in the case was what had given rise to the peritonitis. Was it the presence of the hernia and the dragging on it caused by adhesions between it and the uterus?—The PRESIDENT said that ovariotomy a few years ago was usually attended with peritonitis. He believed that the suffering was caused by the wound not uniting.

At the conclusion of the exhibits Sir WILLIAM J. SMYLY proposed the following motion in graceful and sympathetic terms:—

> The Obstetrical Section of the Royal Academy of Medicine in Ireland at their first meeting for the present session desire to place on record their regret at the great loss which this Academy, and especially this section, has sustained by the death of Sir Arthur Macan.

—Dr. PUREFOY, endorsing to the full everything that had fallen from Sir William Smyly, said that Sir Arthur Macan had won for himself a foremost position amongst the authorities and exponents of obstetrics and gynæcology in the United Kingdom by assiduous hard work and thoroughness, and the profession had sustained a severe loss in his death.—The PRESIDENT desired to add his personal sorrow at the loss of Sir Arthur Macan to the Rotunda Hospital. The whole world had gained by the life of Sir Arthur Macan and he hoped that they would all keep abreast of the times to the last as he had done.—This motion was carried in silence, all present standing.

Dr. A. N. HOLMES read a paper on a case of Ectopia Vesicæ complicating Pregnancy. The patient, aged 33 years, was admitted to the Rotunda Hospital six and a half months pregnant, suffering from ectopia vesicæ. The separation of the pelvic bones was very marked, as much as six inches. The external genitalia were represented by poorly formed labia majora which diverged upwards, the nymphæ and clitoris by a small band of skin which traversed the introitus vaginæ, the latter being a narrow transverse slit situated very far forward, thus making the perineum very long. At the seventh month labour set in spontaneously. The head was driven down into the long perineum, which was divided, and the head easily delivered. During the puerperium prolapse occurred, as there was no anterior support. The patient left the hospital well, but the infant was stillborn.—Mr. J. SPENCER SHEILL asked how Dr. Holmes had arrived at the conclusion that the separation of the bones was six inches by the x rays, which were not accurate for measurement of the pelvis, but the PRESIDENT thought that the pelvis could now be measured very accurately by their means.—Dr. HOLMES, in reply, said the measurements made as felt with the measure practically coincided with those obtained by the photograph. There had been only 14 similar cases recorded.

Sir WILLIAM SMYLY read a paper on Myoma and Pregnancy. Having briefly referred to the subject in general he detailed a case in which serious complications during childbirth and the puerperium were caused by a myoma as large as an adult fist growing from the lower segment of the uterus and developed between the layers of the left broad ligament. These complications included tedious labour, malpresentation, version and extraction of a dead fœtus, post-partum hæmorrhage, retention of the lochia, followed by putrefaction and septic fever. The removal of the tumour by an abdominal operation was succeeded by a pregnancy which ended in the birth of a living child after a normal labour.—Dr. G. FITZGIBBON cited a case in which a fibroid occupied the entire fundus. It flattened out over the fœtus until in the later months it was difficult to differentiate the tumour from the uterine contents. The case was watched and allowed to go to full term and the woman was delivered of a living child without difficulty.—Dr. PUREFOY said that the difficulty of diagnosing pregnancy in the first few months in fibroid uterus was a matter of great importance and should be constantly present to their minds when dealing with such cases. Sir William Smyly's paper illustrated the fact that a woman having a fibroid uterus often passed through several years of married life before pregnancy occurred. In some cases the tumour remained stationary in pregnancy. In some it diminished, as in a case where several small fibroids were palpated at the first pregnancy, while in a second and third pregnancy their presence was difficult to recognise. On the other hand, in some cases the tumour grew very rapidly. His own observations bore out Sir William Smyly's statement that in some cases they removed fibroid uterus without suspecting it to be gravid. The presence of one or more fibroids would chiefly give them trouble in the third stage. Some observers in England advised patients to avoid matrimony, as pregnancy was fraught with great risk in the circumstances, but that was not their experience in Ireland.—Dr. HOLMES, Dr. R. J. ROWLETTE, Dr. HENRY JELLETT, and Mr. J. S. ASHE discussed the case, and the PRESIDENT said that so far as he knew this case was the first reported in Dublin of myomectomy with subsequent pregnancy. Myomectomy at full term without the removal of the uterus seemed to him an impossible operation in the majority of cases. The hæmorrhage that followed the enucleation of a myoma in a pregnant uterus would be greater than he would like to face. In young married women they would all operate if they were sure they could remove the tumours by myomectomy, but that was what they were not sure of. He therefore always let a young married woman keep the myoma in the hope that she would become pregnant. He thought their resources were quite adequate to deal with the myomatous condition, no matter where situate. It was not always easy to diagnose pregnancy when it occurred in a myomatous uterus.—Sir WILLIAM SMYLY, in reply, said that the tumour was attached to the lower uterine segment. When he opened the broad

ligament from the front he had no difficulty in enucleating it. There was considerable hæmorrhage, but he was fortunate in that the first suture included the uterine artery, and he had little trouble afterwards. He did not ligate the ovarian artery separately. He sutured up the rest of the cavity with silk sutures.

The PRESIDENT showed the following card specimens: (*a*) Epithelioma of the Uterus, 9; (*b*) Adeno-carcinoma of the Uterus, 3; (*c*) Sarcoma of the Uterus; (*d*) Fibroid of the Uterus, 14; (*e*) Adeno-myoma of the Uterus; (*f*) Carcinoma of the Ovaries; (*g*) Cyst of the Ovary, 6; (*h*) Dermoid, 2; (*i*) Pyosalpinx; (*j*) Tuberculous Tubes; (*k*) Tubal Pregnancy; and (*l*) Hypernephroma.

NORTH OF ENGLAND OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.—A meeting of this society was held at Sheffield on Nov. 20th, Dr. A. J. Wallace (Liverpool), the President, being in the chair.—Dr. J. W. Martin (Sheffield) exhibited a specimen of Extra-uterine Pregnancy occurring in the left Fallopian tube of a uterus bicornis unicellis. At the abdominal section the left Fallopian tube containing the gestation sac was seen to be attached to the left cornu of a double uterus. The cornu in size and shape resembled the normal corpus uteri. The right horn was represented by a solid structure four inches long and as thick as the little finger; it occupied the sac of a right-sided inguinal hernia. The round ligament and the right appendage could be recognised, but the attachment of the right Fallopian tube to the rudimentary cornu was indistinct.—Dr. J. E. Gemmell (Liverpool) showed a specimen of Primary Epithelioma of the Vagina occurring in a woman aged 40 years. The growth occupied the upper three-fourths of the posterior wall and was freely excised after a preliminary Schuchardt's incision had been made. Microscopically the structure was that of a squamous-celled growth with pronounced mitotic nuclear figures. This feature, together with the absence of cell-nests, pointed to its rapid growth.—Mr. Percival E. Barber (Sheffield) reported a case of Pelvic Hæmatocele due to Carcinoma, simulating Ectopic Gestation. The patient was a single woman, aged 37 years, who complained of severe abdominal pain following a period of three months' amenorrhœa. Under anæsthesia the pouch of Douglas bulged downwards and the examining finger passed readily through very friable tissue into a cavity from which escaped blood clot and broken-down débris. Microscopical examination showed it to be a columnar-celled carcinoma, probably secondary to adeno-carcinoma of the ovary.—Dr. W. E. Fothergill (Manchester) recorded two cases of Gynatresia. The first was that of a girl, aged 14 years, the subject of advanced phthisis, who came under observation on account of pain in the right side and two months' amenorrhœa. Menstruation began at the age of 13 years and was regular for a year, when it ceased. Examination revealed an abdominal tumour reaching to the umbilicus; its lower pole could be felt per vaginam, and to the extreme right of this a crescentic slit represented the os externum of the right half of a double uterus, through which menstruation had occurred for a year. The left half was atresic and distended by retained menstrual fluid which was evacuated. The symptoms were entirely due to the general malady, the hæmatometra being an accidental complication. In the second case, hæmatometra and hæmatocolpus were present in a girl aged 15 years who had never menstruated and had had no menstrual molimina. On evacuating the over-distended bladder an abdominal tumour extending above the umbilicus was defined. There was no vaginal orifice, and the perineum was bulged as by a fœtal head at the end of labour. An incision behind the meatus urinarius through one-third of an inch of very firm tissue evacuated about a gallon of the usual chocolate-coloured fluid. The edges of the vaginal mucosa were secured to the edges of the skin incision. Free drainage was insured by maintaining the sitting posture from the time the patient left the operating table.—Professor R. Favell (Sheffield) narrated a case of Obstructed Labour in a Bicornuate Uterus. The patient, a woman, aged 23 years, had had two children, the last 14 months ago. She gave a history of seven and a half months' amenorrhœa, with more or less constant abdominal pain, and latterly severe hæmorrhage. The physical signs resembled those of an ovarian tumour complicating pregnancy. Abdominal section showed the condition to be due to pregnancy in a uterus bicornis unicellis, the right horn of which was occupied by the fœtus; the left horn, the smaller, contained the placental Cæsarean section was performed through a transverse incision and recovery was uneventful.—Dr. Miles H. Phillips (Sheffield) related a case of Apparent Recurrence of a Cervical Fibroid in a patient, x-para, aged 48 years, from whom he had enucleated a cervical fibroid a year previously. The patient returned complaining of pelvic pain and bladder irritability. There was no vaginal discharge or loss of flesh. Examination revealed a bossy tumour in the anterior lip of the cervix in the site of the original growth. Abdominal total hysterectomy was carried out in the event of the tumour proving to be malignant. Microscopically it was to be regarded, however, as a fibro-myoma undergoing myxomatous degeneration.—Mr. Archibald W. Cuff (Sheffield) communicated a short note on the Spontaneous Closure of Ureteral Fistulæ.

MEDICO-LEGAL SOCIETY.—A meeting of this society was held on Nov. 24th, Dr. F. J. Smith, Vice-President, being in the chair.—Dr. A. G. Bateman, secretary of the Medical Defence Union, read a paper entitled "Unqualified Practice and the Medical Act of 1858." He reviewed cases taken in the courts under the Act and urged that the medical and legal professions should strive to get proper recognition of the medical practitioners in this country and the abolition of the quack. Dentists and veterinary surgeons were protected against unqualified practice but apparently human beings were not of so much account as animals. Education of the public for their own safety and well-being was necessary.—Sir William H. Allchin (visitor), Dr. F. W. Hewitt, Mr. F. W. Sherwood (recorder of Worcester), Mr. A. D. Cowburn, Dr. S. B. Atkinson, Mr. H. Sweeney, Mr. M. Wimpfheimer, and Mr. R. Burrows, LL.D., joined in the discussion that followed.—Dr. Bateman having briefly replied, the meeting adjourned.

Reviews and Notices of Books.

Quain's Elements of Anatomy. Edited by EDWARD ALBERT SCHÄFER, LL.D., Sc.D., F.R.S., Professor of Physiology and Histology in the University of Edinburgh; JOHNSON SYMINGTON, M.D. Edin., F.R.S., Professor of Anatomy in Queen's College, Belfast; and THOMAS HASTIE BRYCE, M.A., M.D. Edin., Lecturer in Anatomy, University of Glasgow. Eleventh edition. In Four Volumes. Part 1, Vol. III., Neurology. By E. A. SCHÄFER and J. SYMINGTON. With 361 illustrations, many of which are coloured. London: Longmans, Green, and Co. 1908. Pp. 421. Price 15*s.* net.

IN our issue of July 18th, p. 162, we mentioned the subjects which would be contained in the four volumes of "Quain's Elements of Anatomy" and we published a review of Vol. I. (Embryology, by Dr. T. H. Bryce). The next portion of the work in order of publication is the one at present under notice (Part 1 of Vol. III.), embracing the general structure and mode of development of the elements of the nervous system and the special structure of the spinal cord and brain. It will be followed by a second part containing the descriptive anatomy of the nerves and of the sense organs, the two parts together constituting a complete text-book of neurology.

The present volume has been edited and almost entirely rewritten by Professor Schäfer and Professor Symington who have undoubtedly taken the greatest care that the book should be worthy of their names. Needless to say, their labours have been eminently successful, for the book, besides embodying the most recent knowledge on the subject of which it treats, contains an extensive bibliography and is lavishly supplied with illustrations which would be difficult to surpass. The first section, containing an excellent account of the general structure and mode of development of the nervous system, is followed by a detailed account of the structural elements of the nervous system, in which the histological anatomy of nerve cells and nerve fibres, of neuroglia cells and fibres, of nerve endings, and of

ependymal epithelium is described at length. Section III., devoted to the cerebro-spinal axis, opens with an account of the gross anatomy of the spinal cord. This is followed by descriptions of its internal structure and of its microscopic structure and is completed by a chapter on the conducting tracts of the cord and the degenerations resulting from lesions. The medulla and pons, the cerebellum, the mesencephalon, the thalamencephalon, and the cerebral hemispheres are all treated in a similar manner, the gross anatomy being followed by an account of the microscopic structure in each instance. In describing the naked-eye anatomy of the cerebral hemispheres the authors acknowledge their indebtedness to Professor Retzius whose work, "Das Menschenhirn," has been freely consulted in the preparation of the present volume. A very useful and instructive chapter on the cerebral hemispheres of the primates, together with a comparison between the human and anthropoid brains, is included in this portion of the work. The remaining chapters of the book are devoted to the minute structure of the cortex, the membranes and the blood-vessels of the brain and the spinal cord, and cranio-cerebral topography.

The book, printed in clear type on good paper, is profusely illustrated with beautiful drawings which are faithfully reproduced and in many instances the text is further elucidated by the clearest of outline diagrams. We cannot speak too highly of the volume which is undoubtedly the best of its kind published within recent years.

Injuries of Nerves and their Treatment. By JAMES SHERREN, F.R.C.S. Eng., Assistant Surgeon to the London Hospital; Surgeon to the Poplar Hospital for Accidents; late Erasmus Wilson Lecturer, Royal College of Surgeons of England. London: James Nisbet and Co., Limited. 1908. Pp. 310. Price 5*s.* net.

THE surgery of the injuries of nerves is of comparatively recent date; much work has been done, both experimental and surgical, and now it may be said that we possess fairly exact knowledge of the subject. This book does not claim to contain an exhaustive account of the surgery of the injuries of nerves but it omits little that is of any importance. Mr. Sherren prefers to discard the expressions "concussion," "contusion," and "laceration of nerves," which describe rather the method of injury of the nerve than the actual damage to the conducting portion of the nerve. They omit the only really important fact for prognosis and treatment, and this is whether the separation from the central nervous system is complete or incomplete; therefore Mr. Sherren divides injuries of the nerves into those with (*a*) complete and (*b*) incomplete division. Further, each of these classes is divisible into two, in one of which the naked-eye continuity of the nerve is intact, and this he terms physicological, and in the other there is a visible solution of continuity or "anatomical division." A good account is given of "plexus-injuries" and of the injuries of individual nerves. The ways in which nerves are damaged are also described, and the causes may be divided in three classes: first, wounds, accidental or operative; secondly, pressure; and thirdly, traction. These various causes affect the individual nerves with different frequency. For instance, the median and ulnar nerves are most commonly injured by penetrating wounds, the musculo-spiral nerve as the result of pressure, and the brachial plexus as the result of traction. The signs and symptoms of the complete division of a peripheral nerve are discussed, the method of examination is described, and the diagnosis is considered. The diagnosis of injury of nerve is perhaps most difficult from hysterical affections coming on after some form of injury.

The treatment is discussed fully and Mr. Sherren points out the need for great care in the treatment of the case after the operation has been performed. The operation of primary suture of a divided nerve is comparatively modern, though it was performed by Baudens so long ago as 1836, yet it was not a recognised method of treatment until 1864 when Nélaton reintroduced it. The author says emphatically that scissors should not be used to pare the ends of a nerve as bruising results. Sterile catgut he considers to be the best suture and one stitch is sufficient in nearly all cases. Chromicised Cargile membrane is used to surround the junction so as to prevent the ingrowth of fibrous tissue and adhesions to surrounding parts. The membrane resists absorption for five weeks and does not cause irritation. What is to be done if in secondary suture of a nerve it is not possible to bring the ends together? Transplantation of nerve is valuable, especially when the nerve employed is taken from the patient or another human being, and Mr. Sherren considers this the method of election; when auto- or homo-transplantation is not possible then either nerve anastomosis or tubular suture may be employed. As to the length of time before recovery of sensation and motion after secondary suture the author considers that it is too irregular for any definite statement to be made. He does not consider that it bears any relation to the time of the secondary suture unless that has been delayed beyond three years. The remaining chapters of the book deal with the lesions of individual nerves and of groups of nerves.

The book is excellent and contains a very good account of the injuries of nerves and their treatment. It is fully abreast of our present knowledge both in the theoretical and in the practical portions.

Human Personality and its Survival of Bodily Death. By FREDERIC W. H. MYERS. Edited and abridged by his son, LEOPOLD HAMILTON MYERS. London: Longmans, Green, and Co. 1907. Pp. 470. Price 10*s.* 6*d.*

THE original edition of this truly remarkable work, which we reviewed in THE LANCET[1] at the time of its appearance, was published in two volumes at the price of two guineas. The editor states that his father before his death indicated the lines upon which an abridgement could be made, and in producing the present abridged edition he has endeavoured to keep as closely as possible to the original scheme and construction of the book. It is now of a size more convenient for the inquirer into the interesting departments of which it treats and it affords a stimulating and instructive record of the experiments and speculations of a highly original mind working in fields of singular difficulty along paths previously almost unexplored. The fundamental object to which it is devoted is the endeavour to answer that most momentous of questions—as to whether the personality of man involves any element which can survive bodily death. The general conclusion to which Mr. Myers's long study of this problem brought him may best be given in his own words: "'The conscious Self' of each of us, as we call it, the empirical, the supraliminal self, as I should prefer to say, does not comprise the whole of the consciousness or of the faculty within us. There exists a more comprehensive consciousness, a profounder faculty, which for the most part remains potential only so far as regards the life of earth, but from which the consciousness and the faculty of earth-life are mere selections and which reasserts itself in its plenitude after the liberating change of death." He adopted the conception of a "subliminal consciousness" and extended it so as to include all the psychical processes which occur beneath the threshold or beyond the margin of that ordinary play of conscious activity, which we commonly call consciousness and which may for descriptive purposes

[1] THE LANCET, May 2nd, 1903, p. 1241.

be designated the "supraliminal" or ordinary consciousness. In illustration of this conception the range of psychical processes is compared to the spectrum of the sun's rays. It is familiar that beyond the visible spectrum there are the heat rays at the red or lower end, the actinic and other rays at the violet end; so it is suggested that in the "conscious spectrum" there are subliminal faculties beyond the lower or organic end and beyond the higher or intellectual end. The object of Mr. Myers's work was to present and to examine the various kinds of evidence on which this general conception was based.

The first subject considered in the light of this view of conscious activities is that of "Disintegrations of Personality." A psychological study is given of certain forms of mental alienation, including those of the "fixed idea," of double personality, and of secondary personality. Next, genius is considered, and the ingenious hypothesis is offered that the inspiration of genius is due to the capacity of utilising a wider range of faculties than in the ordinary person and to "subliminal uprushes" into actual consciousness. Various personal experiences of great men are quoted in support of this idea. Genius is thus supposed to be due to the subliminal mentation coinciding with, and supplementing, the supraliminal without changing the apparent phase of personality. Hypnotism, on the other hand, is regarded as the result of subliminal operations changing the apparent phase of personality from the state of waking in the direction of trance, while the phenomena called sensory or motor automatism result when the subliminal forces itself up through the supraliminal without amalgamation as in crystal vision and automatic writing.

A chapter is devoted to a study of sleep and dreams and an explanation of the genesis of dreams in the light of the above general conception is developed. It is suggested that the sleeping consciousness is capable of telæsthetic and telepathic properties, perhaps to a greater degree than the waking. It is further assumed that human life possesses two aspects, a material phase, to which the organism reacts, and a spiritual or cosmic phase. The subliminal self is conceived as in the main directing the sleeping period in which the organism may draw in energy from the spiritual world or "expatiate in the exercise of supernormal powers—telepathy, telæsthesia, ecstasy."

The subject of hypnotism is next considered at some length, the history from the days of Mesmer to the present time is lucidly outlined and the nature of the phenomena associated with the hypnotic state is discussed. Mr. Myers was in the main in agreement with the Bernheim or Nancy School, and regarded Charcot's work on hypnotism as having retarded rather than helped its progress. He recognised the paramount importance of suggestion in regard to hypnosis and defined suggestion in terms of his own hypothesis as "successful appeal to the subliminal self." He believed that the possibilities of advance opened up by hypnotism were very great, not only as a therapeutic agent but also as a means for educating and evolving human faculties by enlarging the sphere of application of subliminal mental activities.

Sensory automatisms, which are defined as "the products of inner vision or inner audition externalised into quasi-percepts," form the subject of the next chapter. Various phenomena, such as those of linked sensation or synæsthesiæ, memory images, hallucinations, and the appearance of phantasms or visitations, are considered. The importance of telepathy in connexion with some of these phenomena is frequently emphasised and two alternative views are offered to explain the phenomenon of the appearance of phantasms, one that of "telepathic impact," the other that of "psychical invasion," which supposes that the agent in some way causes a modification of some definite portion of space in such a way as to give the impression of an apparition to one or more percipients.

The more complex, though cognate, subject of phantasms of the dead forms the subject of the next chapter. The question is obviously one of paramount importance in connexion with the main thesis of the survival of personality after bodily death. The conditions to which such phenomena must conform in order to be attributable to the influence of a discarnate mind are laid down. Various recorded instances are analysed and it is contended that the general nature of such manifestations is in conformity with those of spontaneous telepathy during life and with those of phantasms of the living and that they fall into three groups: actual apparitions, emotional and motor manifestations, and definite intellectual messages.

Motor automatism, or the conveyance of messages by movements of limbs, hand, or tongue initiated by inner motor impulses beyond the conscious will, forms the subject of the next chapter. In this connexion muscle reading (often wrongly called mind reading), automatic writing, and automatic speech are discussed in detail and the view is expressed that such phenomena may be due to an actual "psychical invasion" of the percipient by some other personality. This idea is further developed in the next chapter which is devoted to a consideration of trance, possession, and ecstasy. Possession is thus regarded as a more developed form of motor automatism in which there is a more or less complete substitution of personality. Some important recorded cases of possession are discussed. In an epilogue the relation of these phenomena to religious beliefs is discussed and hope is expressed of the future advances to be made by careful research on the lines of inquiry outlined in this book.

It is impossible to study the work of the lamented and gifted author without admiration for his enthusiasm and for the careful, scientific, and laborious analysis to which he subjected the complex data at his disposal. The charm of his literary style, the ingenious character of his speculations, and the fascination which the subject of the survival of personality has always possessed for the thoughtful minds of all ages combine to render the volume one of great interest. The result is to leave us in a receptive, though not a convinced, state of mind in regard to many of the interesting phenomena and speculations with which it is concerned.

The Story of a Lifetime. By Lady PRIESTLEY. London: Kegan Paul, Trench, Trübner, and Co., Limited. 1908. Pp. 334. Price 12*s.* 6*d.*

Lady Priestley tells us in the preface to her book that it was originally written some five years ago solely for family reading. A few copies only were printed but the book soon became known and many applications were made both to see the book and to review it. At first Lady Priestley refused to make it public but at length she yielded, and we congratulate her on her resolve, for the result is that the reading public is now in possession of a book of reminiscences which are, unlike some reminiscences, not boring, not twaddly, but full of interest, especially to those who take delight in literary or artistic matters.

Eliza Priestley was a twin daughter of Robert Chambers, the well-known Edinburgh publisher, so she was brought up in the Edinburgh of the "forties" and "fifties" and was a member of the remarkable literary and artistic circle of those days which then made Edinburgh famous. John Brown, Noel Paton, George Combe, Simpson, Aytoun, Theodore Martin, are only a few among the names which appear in Lady Priestley's recollections of her childhood. Bulwer Lytton, immortalised as much by "George de Barnwell" as by "Eugene Aram," was a frequent visitor at the

Chambers's house and used to try experiments on "the girls" in electro-biology, otherwise hypnotism. These experiments were, however, says Lady Priestley, nothing to those which Simpson used to try with chloroform. Simpson, "with some of the liquid simply poured on a handkerchief would have half a dozen of us lying about in various stages of sleep. Our mother feared nothing." Later in life the Priestleys became very intimate with Pasteur and his wife and they had a considerable share in making his work appreciated in this country.

Among other interesting people with whom Lady Priestley came in contact was Mrs. Loudon, the widow of J. C. Loudon, the botanist and writer on agriculture. He must have been a man of iron will, for Lady Priestley relates how owing to rheumatic ankylosis and a subsequent fracture of the humerus which did not unite he found the affected arm so in the way that he determined to have it amputated. When the day came the arm was amputated (there were no anæsthetics in those days), and after the stump had been dressed "he was about to step downstairs, as a matter of course, to go on with his business." He was only persuaded with great difficulty to go to bed.

Loudon was the hero of the delightful story of the Waterloo Beeches, which as Lady Priestley does not mention it, we will, to quote the immortal Mr. Barlow, "now proceed to narrate." One day when Wellington was sitting in the House of Lords he received a note from Loudon to the following effect:—

> MY LORD DUKE,—It would gratify me extremely if you would permit me to visit Strathfieldsaye at any time convenient to your Grace, and to inspect the "Waterloo Beeches."
>
> Your Grace's faithful servant,
>
> J. C. LOUDON.

The "Waterloo Beeches," we may add, were those planted just after the battle as a memorial. Wellington read the letter twice over and misread the signature as C. J. London. He then replied as follows:—

> MY DEAR BISHOP OF LONDON,—It will always give me great pleasure to see you at Strathfieldsaye. Pray come there whenever it suits your convenience, whether I am at home or not. My servant will receive orders to show you as many pairs of breeches of mine as you wish; but why you should wish to inspect those that I wore at the battle of Waterloo is quite beyond the comprehension of
>
> Yours most truly,
>
> WELLINGTON.

When "My Dear Bishop of London" (C. J. Blomfield) received this epistle he was not unnaturally somewhat astonished. He showed it to the Archbishop of Canterbury and the other Bishops, who were as much exercised by it as if it had been an Education Bill. The Bishop of London said that he had not written to the Duke for two years. However, explanations eventually came about and the mystery was cleared up.

We will take our leave of Lady Priestley's book by saying that if anyone is tired of the burning questions of the day he will find relief and mental refreshment in reading this pleasantly told chronicle of an age which has gone for ever.

LIBRARY TABLE.

The Truth and Error of Christian Science. By M. CARTA STURGE. London: John Murray. 1908. Pp. 185. Price 2*s.* 6*d.* net.—The general nature of the claims of "Christian Science," more especially in regard to the efficacy of mental healing, is fairly well known, but the reasoning or philosophy on which these claims are based, as set forth in the writings of Mrs. Eddy, is probably less familiar. Miss Sturge, after long, sympathetic, and patient study of the published books on the subject, and after association with some of the genuine followers of the cult, has subjected the statements and views of "Christian Scientists" to a logical analysis and to a temperate and unbiassed criticism. The labour involved must have been considerable, since she has been at special pains to discover the general principles and to express them clearly; whereas the writings of Mrs. Eddy abound in contradictions and are generally lacking in sequence. Miss Sturge points out that those statements of the "Christian Scientists" which are true present no novelty, but are such as are generally taught in Christian doctrines or are affirmed by philosophers. The inconsequential character of Mrs. Eddy's deductions is well illustrated by Miss Sturge in a brief epitome of the chief doctrines of "Christian Science." From the main principle that All is God is reduced the generalisation that All is Mind, and further that mind alone is real. Matter is therefore regarded as non-existent, and the entire material world is the creation of what Mrs. Eddy calls Mortal Mind, whatever that may be, for Miss Sturge is unable to find a coherent definition of it. Since the material world is a delusion our bodies are non-existent and disease is therefore equally a delusion, although, curiously enough, as Miss Sturge points out, there must be a condition of bodily health, since Mrs. Eddy's book, "Science and Health," has for its object to teach us how to maintain it. The subject of "mental healing" is considered at some length and in this connexion the importance of suggestion as a therapeutic agent in appealing to some of the subconscious or subliminal activities of mind is emphasised, although Miss Sturge indicates that she does not mean to imply that "Christian Scientists" may not draw power from some higher or spiritual planes, as they claim to do, but the onus certainly lies with them to establish the proof of this. We can commend this small book as a thoroughly temperate and critical exposure of the glaring inconsistencies and exaggerated claims of this strange modern form of mysticism.

Landmarks and Surface Markings of the Human Body. By LOUIS BATHE RAWLING, M.B., B.C. Cantab., F.R.C.S. Eng., Assistant Surgeon, Demonstrator of Practical and Operative Surgery, late Senior Demonstrator of Anatomy, at St. Bartholomew's Hospital; late Assistant Surgeon to the German Hospital, Dalston; late Hunterian Professor, Royal College of Surgeons of England, &c. Third edition. London: H. K. Lewis. 1908. With 31 illustrations. Pp. 96. Price 5*s.* net.—The demand for this little book having necessitated the publication of a third edition the author has taken the opportunity of increasing its value by the addition of several illustrations. He has wisely refrained from altering the text which therefore remains the same as in the previous edition. The new illustrations besides being well conceived are beautifully executed and materially assist in elucidating the text. The book as it stands fills a long-felt want and we wish it a continuance of the success which it has so deservedly gained.

A Synopsis of Surgery. By ERNEST W. HEY GROVES, M.S., M.D., B.Sc. Lond., F.R.C.S. Eng., Assistant Surgeon to the Bristol General Hospital; Surgeon to the Cossham Hospital; Senior Demonstrator of Anatomy at the University College, Bristol. Bristol: J. Wright and Sons, Limited. 1908. Pp. 486. Price 7*s.* 6*d.* net.—Nearly every student who has read a text-book of surgery feels the need as his examination draws near for some way of revising his knowledge, and for such a one this book should prove useful. It appears to contain all that is necessary in a synopsis and the phraseology is not too condensed. No synopsis should be used in place of a treatise on surgery, for the explanations are necessarily omitted or very brief, but such a book as this may legitimately be employed for revising knowledge. So far as we have examined it, it is accurate, but a few misprints occur, such as "bacillus coli commune." The final chapter on Surface Markings is likely to prove useful.

Reports and Analytical Records
FROM
THE LANCET LABORATORY.

(1) SPARTAN BISCUITS; AND (2) APAX BISCUITS.
(HUNTLEY AND PALMER, READING.)

1. THE Spartan biscuit represents a form of food which has been considerably enriched with protein. Our analysis shows that the protein amounts to 21·16 per cent., the other constituents representing ordinary wheaten flour. The mineral matter amounted to 1·30 per cent. and the moisture to 3·40 per cent. The biscuit is satisfactorily dry and crisp and is thoroughly cooked. As a source of food containing a trustworthy proportion of nutrient substance the biscuits are satisfactory, providing reparative materials as well as those elements which support the energy of the body. 2. Apax biscuits also represent a high protein value, the protein amounting, according to our analysis, to 27·34 per cent. This addition obviously diminishes the proportion of carbohydrates, a fact which has suggested their use by persons inclined to corpulency. Under the microscope branny particles were easily observed. The Apax biscuit is undoubtedly nourishing while it is also calculated to help peristaltic action.

COLVO.
(RISICCOL, LIMITED, 31 AND 32, BUDGE-ROW, LONDON, E.C.)

Colvo is the name given to a powder which contains, according to our analysis, 40·50 per cent. of cod-liver oil. This large percentage of oil present in a preparation which is in the form of powder, dry and almost dusty, is remarkable. The absorbent is magnesia. The powder may be administered in many ways without offending the susceptibilities of those who find ordinary cod-liver oil repulsive. We have also examined biscuits which, according to our analysis, contained over 20 per cent. of oil, the oil again being obscured in the same way. The preparations represent a satisfactory attempt at meeting the chief objection to a well-known valuable therapeutic agent.

GINORA (BITTERS).
RAYS, LIMITED, OVAL-STREET, GREAT PORTLAND-STREET, LONDON, W.)

According to our analysis, and chemically speaking, this is a dilute alcoholic solution of well-known bitters. It contains 8·51 per cent. of extractives, consisting chiefly of bitter principles. The alcohol amounted to 17·17 per cent. per volume. Like many well-known bitters it encourages the secretion of digestive juices and stimulates the appetite.

CAPE COLONY WINES AND BRANDIES.
(HENRY C. COLLINSON, LIMITED, 9, CASTLE-STREET, CAPE TOWN; LONDON AGENCY, 38, MINCING-LANE, E.C.)

We have from time to time had occasion to examine the wines produced in Cape Colony, and it is quite evident that the methods of cultivation there are now meeting with a success approaching that obtained in other countries. We have received, for example, a series of samples from Cape Town recently which comprised wines of the type of Rhine wines, Medoc wines, Burgundy wines, Oporto wines, and Jerez wines, and amongst these also we may mention some brandies which are promising in character. We cannot deal with all the samples referred to but will select a few which we regard as good examples. The wine known as Hermitage, for example, is distinctly of the Bordeaux character, light as regards alcohol, non-acid, and pleasant to the taste. On analysis this wine gave the following results: alcohol by volume, 13·43 per cent.; extractives, 2·32 per cent.; mineral matter, 0·22 per cent.; volatile acidity reckoned as acetic acid, 0·12 per cent.; and fixed acidity reckoned as tartaric acid, 0·525 per cent. Pontac again closely resembles a burgundy—that is, a robust, almost purple-coloured, wine with good "flower," as connoisseurs would say. It contained 17·17 per cent. by volume of alcohol, 3·65 per cent. of extractives, a volatile acidity of 0·18 per cent. calculated as acetic acid, and a fixed acidity of 0·55 per cent. calculated as tartaric acid. The Kimberley Club sherry and the Cape port we cannot endorse as having the æsthetic characters of the famous wines of Jerez and Oporto respectively, although we have no doubt that they are pure genuine wines. Drakenstein we regard favourably as an agreeable light wine resembling Rhine wine, though somewhat heavier in respect of alcohol, of which it contained 14·37 per cent. by volume. The extractives amounted to only 1·61 per cent., the volatile acidity to 0·10 per cent., and the fixed acidity to 0·54 per cent. As to Cape brandies, those known as V.S.O.P. and fine old liqueur are excellent. They have the characters of a well-matured wine spirit, and analysis shows a remarkably high proportion of ethers. The amounts as a matter of fact varied from 200 to 212 parts per 100,000 parts of alcohol present. The quantity of furfural was comparatively small. The V.S.O.P. showed greater age than the other samples and was really an excellent brandy. The three star brandy was less classic in character and compared with the others possessed a flavour and odour which indicated youth rather than age. On the whole, the wine products of Cape Colony are developing along satisfactory lines and their quality and characters are improving so obviously that before long they may dare to compete with the similar products of historic countries.

LACTOBACILLINE.
(LA SOCIÉTÉ "LE FERMENT," 77, RUE DENERT-ROCHEREAU, PARIS.)

We have received from the above Société "Le Ferment" samples of their compressed lactobacilline tablets which are said to contain two species of the lactic germ, one of Eastern and the other of European origin. In other words, lactobacilline is a pure culture of lactic organisms which may be employed in various forms—tablets, fluid, and so forth—in the treatment of gastro-intestinal affections. The preparations are the practical outcome of Metchnikoff's view that nascent lactic acid prevents a putrefactive action in the intestine and therefore wards off certain toxic effects which otherwise may arise. In a way, therefore, lactobacilline may be said to have an antiseptic action, inasmuch as the lactic organisms contained in it develop lactic acid which is antagonistic to the putrefactive organisms of the colon. We found the tablet to be active, for on cultivating some of it crushed in milk, the transformation of the milk sugar into lactic acid was abundantly proved.

AMBORA SOAPS.
(THE AMBORA SOAP WORKS, 101, FINSBURY-PAVEMENT, LONDON, E.C.)

The presence of free ammonia in soap is certain to assist very materially its action as a detergent and is especially applicable in cases where coarse dirt is required to be removed. Ambora, according to our examination, is a white soap paste, giving off a strong smell of ammonia. It acts most effectually in removing greasy impurities however gross. We also examined a toilet ambora soap which is particularly applicable for use in hard water. The list also includes an ordinary bar soap conspicuous for its grease-removing qualities, and a disinfectant soap containing an agreeable antiseptic oil. The products are all excellent hygienic agents.

THE HERCULES PATENT MEAT JUICE PRESS.
(AGENTS, 85, QUEEN VICTORIA-STREET, LONDON, E.C.)

This handy little press, while compact, is also, we find, most effective. It consists of a small screw press, the pressure being exerted upon a series of corrugated discs, between which small pieces of raw meat are placed. The

discs and meat are contained in a strong metal vessel provided at the foot with a spout through which the juice escapes. We found that as much as 2½ fluid ounces of juice was obtained by submitting to pressure 4½ ounces of lean beef, which is a yield of well over 50 per cent., a result which may be regarded as the maximum possible. All the parts are accessible for cleaning. This handy little apparatus should find a strong appreciation in the hospital and in the sick room, as by its use a very nourishing fluid may be readily and almost instantly obtained directly from raw meat.

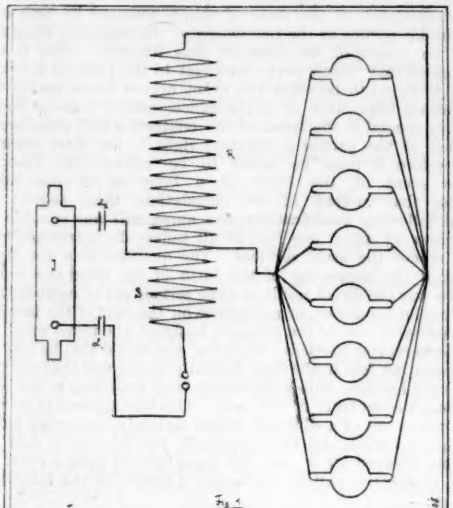
New Inventions.

X RAY TREATMENT OF INTERNAL PROCESSES.

THE different kinds of radiation used to an ever-increasing extent in modern medicine, and most of all Roentgen rays, are known not only to exert a curative effect on morbid tissues but at the same time to affect sound parts in a disadvantageous manner. They require, therefore, in order to avert any harmful secondary effects, the most careful measures of precaution.

Now, of these two effects, that exerted on the morbid tissues is by far the stronger, and to this fortunate circumstance are due the curative effects insured by x ray radiation. It may be said fairly that in the application of x ray treatment medical men have so far been mainly limited to the surface of the body, there being no means available of generating a radiation of a sufficiently constant penetrative power to reach the deeper parts of the body without any damage to the skin. Owing to fluctuations in electro-tension the x ray bulb in fact gives out cathode rays of different speeds, which in turn produce x rays of a penetrative power differing in proportion, and all "hard" radiations hitherto obtained have been invariably mixed with "soft" (or less penetrating) rays which, being absorbed by the skin, resulted in severe injury to the latter. Now, Dr. G. Holzknecht of

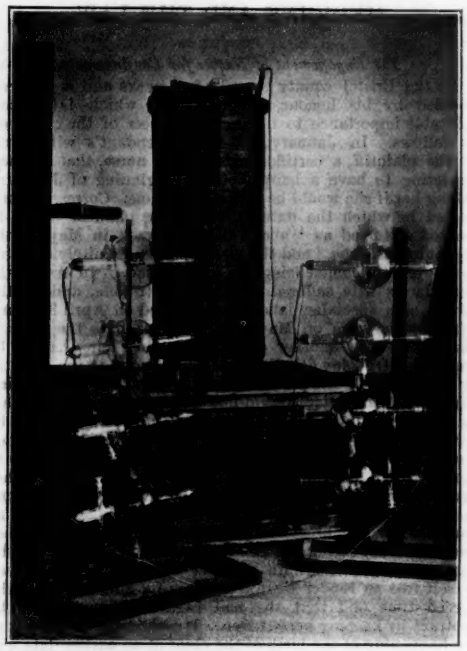
FIG. 1.



Schema showing arrangement of coil-lamps, &c.

Vienna, by ingeniously combining different factors, recently suggested a process of generating a uniformly penetrative Roentgen radiation, by means of which internal processes, such as cancerous tumours or seats of tuberculous affections, would seem to be susceptible of most efficient treatment. This radiation is absorbed by the internal parts of the body at least as strongly as at its surface, and as any morbid parts are acted on far more rapidly and intensely than the sound tissues, the curative effects exerted in the interior of the body are attended by no injury to the skin. The factors utilised by Dr. Holzknecht are: (1) a considerable distance between the x ray bulb and the body; (2) filtration of the radiation; (3) production of specially penetrating rays; and (4) radiation in all directions. It may be truly said that the practical utilisation of the process was at first made difficult by the lengthening of the time of treatment due to each of those factors. Owing to the great distance the intensity of radiation in fact decreases (proportionally to its square, that is, by four times for a double distance); filtration results in part of the radiation being lost by absorption, and "hardness" of radiation is accompanied by another loss of energy, while the distribution over several directions in its turn results in a loss of intensity. The lengthening in the time of treatment was at first so considerable as to require from 50 to 100 hours to cause the same amount of radiation to act on the body as could be applied to the skin by a 15 minutes' treatment. By the use of several bulbs and the simultaneous treatment of several patients a relative shortening of the treatment could, it is true, be obtained. Now, Herr H. Bauer of Berlin, according to a communication

FIG. 2.



General view of apparatus.

to the recent X Ray Congress, has been able to design, on the basis of the principles suggested by Dr. Holzknecht, a really practicable apparatus, by the aid of which the time of treatment is reduced to quite normal limits, thus making the process accessible to a general application.

The inventor uses a high-tension circuit for the simultaneous operation of several Roentgen bulbs, analogous to those employed in wireless telegraphy. In Fig. 1 J represents an induction coil run without any interrupter by connexion to an alternate current circuit, and which feeds a high-tension circuit made up of the Leyden jars L_1 and L_2, the spark gap, and the self-induction coil S. In connexion with the spark gap the same principle has been made use of as was used in the "fulgurator" constructed by Bauer, decomposing the spark into a large number of small partial sparks, by arranging at short distances apart a considerable number of zinc plates between which small sparks are allowed to pass. This reduces the annoying crackling of the spark to a

minimum, while avoiding any heating effects, as would be unavoidable in the case of a continued operation. The self-induction coil is directly coupled to a resonance coil R, tuned to the former, and from the terminals of which the current is supplied to eight x ray bulbs, which are made to give out a uniform and steady radiation, generating at two metres' distance, in accordance with Dr. Holzknecht's experiences, a homogeneously penetrative field of radiation of very high intensity. As seen from Fig. 2 each of the x ray bulbs constructed by Bauer comprises two cathodes and a double anti-cathode so as to give out two beams of rays and to cause in the case of an eight-fold operation, as represented in the figure, an aggregate of 16 beams to act on the body. The apparatus, as constructed by a well-known German electrical company, comprises a closed under-frame supporting the two coils R and S, and from which part of the induction coil is allowed to project. The point of the resonance coil during operation gives out electrical discharges of extraordinary intensity, being 1·5 metres in length and of the thickness of an arm. The operator obviously is able to increase the evolution of energy by adding further Leyden jars. The results so far obtained seem to be uniformly satisfactory, and though a definite judgment cannot yet be formed the new process seems to justify the most sanguine hopes.

Berlin. ALFRED GRADENWITZ.

MEDICINE AND THE LAW.

The Engagement of Nurses for Confinements.

IN the Bristol county court a few weeks ago a case was decided by his honour Judge Austin which is of considerable importance to nurses. The facts of the case were as follows. In January last the defendant's wife wrote to the plaintiff, a certificated monthly nurse, that she was expecting to have a baby about the beginning of June and asking her if she would be free at that time. Correspondence passed by which the date at which the plaintiff would be wanted was fixed as "about the last week in May, or the beginning of June," and the plaintiff was definitely engaged for a month commencing at that period. In April the defendant's wife suffered from kidney trouble, and on the advice of a specialist labour was induced on April 28th and the baby was born on May 2nd. At that date the plaintiff was engaged on another case and another nurse had to be engaged. On May 4th the defendant wrote to the plaintiff informing her of the premature birth of the child and telling her "that her services would not be required next month." To this the plaintiff replied that she would see what could be arranged and would try to obtain another case. She was, however, unable to do so, and at the end of June wrote to the defendant informing him of the fact and claiming her agreed fees for the month. As the defendant would not pay the plaintiff brought an action against him, claiming as damages for the breach of her contract the amount of her fees. At the hearing it was argued on her behalf that the contract was an absolute contract for the nurse to keep herself free to render certain services for a month from the agreed time and that she had fulfilled her part of the contract by keeping herself free. It was further argued that the happening of the birth of the child at an earlier date was not such an occurrence as would render the performance of the contract impossible, and that the contract being a positive one there could not be imported into it a condition that because of the birth not happening at the exact date expected the defendant was freed from his liability to pay. The case of Herne Bay Company *v.* Hutton was quoted in furtherance of this argument. This was a case arising out of the postponement of the naval review at Spithead in 1902 owing to the illness of the King. In this case the plaintiffs agreed to let the defendant a pleasure steamer "for the purpose of viewing the naval review and for a day's cruise round the fleet," and it was held that the plaintiffs were able to recover, as the risk was the defendant's alone, and, secondly, the happening of the naval review was not the sole basis of the contract, so that there had not been a total failure of consideration or a total destruction of the subject matter of the contract. Another argument was that if nurses are going to be placed in the position of being liable to lose the whole of their fees through the happening of events over which they have no control it will work a very great and serious hardship and make it almost impossible for them to earn a living at all. The judge, however, held that the basis of such contracts must be taken to be the birth of the child about the calculated time, and that as in this case this had taken place beforehand, owing to no fault of either party, the contract was off at the date of the birth, and he gave judgment for the defendant with costs. It is submitted that his honour was correct in this view for the following reasons. First, as regards the happening of the birth being the basis of the contract, this must be so, since but for the mutual expectation of the birth of the child at the calculated time there would have been no contract whatever made. Once this is admitted the rest follows, for the law relating to contracts of an executory nature has been settled by a well-known case, Taylor *v.* Caldwell, the principle of which is that where the performance of a contract becomes impossible from some cause for which neither party is responsible and the party sued has not warranted that the event, the non-occurrence of which has caused the contract not to be capable of performance, should take place, then both parties are relieved from the performance of the contract. This has been extended by recent cases, notably Krell *v.* Henry, a case arising out of the failure of the procession in London to take place on the advertised date in June, 1902, owing to the King's illness. In this case the defendant had agreed in writing to take rooms in Pall Mall for the dates on which the procession had been fixed, but no express reference to the procession was made, though both parties were aware of the reason for the rooms being taken on those dates and a deposit was paid by the defendant. As the procession did not take place the defendant refused to pay the balance for the rooms, and it was decided in the Court of Appeal by Lords Justices Vaughan Williams, Romer, and Stirling that the plaintiff was not entitled to receive the balance. In the course of his judgment Lord Justice Vaughan Williams said: "I think you have to ascertain, not necessarily from the terms of the contract, but, if required, from necessary inferences drawn from surrounding circumstances recognised by both contracting parties, what is the subject of the contract and then to ask the question whether that substantial contract needs for its foundation the assumption of the existence of a particular state of things. If it does this will limit the operation of the general words, and in such case, if the contract becomes impossible of performance by reason of the non-existence of the state of things assumed by both contracting parties as the foundation of the contract, there will be no breach of the contract thus limited." Also it was decided that "each party must rest in the position in which he is found to be when the event occurs which makes the contract impossible of performance, unless there is something special in the terms of the contract which gives one or other of the parties a different right." On these grounds therefore it must be taken to be correct law that in the event of the birth of a baby at a time other than that arrived at by calculation, then, subject to the following qualifications, the nurse will not be able to recover by action any fees at all unless she is free and able to render the usual services. The qualifications are, first, that if the happening of the birth of the child at a wrong date was the direct result of some serious act of carelessness, wrongful behaviour, or negligence on the part of the patient, or probably also of the patient's husband, the nurse would be able to recover her fees; secondly, she would also be able to recover her fees if she had specially contracted that she was to have her fees unless prevented from attending to the case through some fault of her own. This last appears to be the only way out of a difficulty which certainly does entail hardship on nurses, and the suggestion put forward is that on being engaged for a case the nurse should write a letter to the prospective patient containing a clause on the following lines:—

> I wish to say, also, that as it is impossible to be certain in these cases of freedom from accidents I shall expect, as is usual, to receive my fees (or part of them) if from any cause the baby is born at a different time from that which we expect, and I am thereby prevented from coming to you.

This would protect nurses from losing all their fees in cases of accidents to their patients, miscarriages, or miscalculations of dates, but would not cover acts of negligence on their parts or help them if they choose to take overlapping cases. Their only other remedy is to rely upon their patients' generosity.

THE GENERAL COUNCIL OF MEDICAL EDUCATION AND REGISTRATION.

TUESDAY, NOV. 24TH (*continued*).

The Reading of the Minutes.

A MOTION was agreed to to the effect that the minutes of the Council which had been printed and circulated should be taken as read instead of being read *in extenso* by the Registrar.

Mr. HENRY MORRIS, in commenting on the motion, remarked that in this way the time and the finances of the Council would be economised, as the reading of the minutes usually took about 15 minutes.

The Apothecaries' Hall of Ireland.

The Council then resumed consideration of a motion with respect to the Apothecaries' Hall of Ireland, proposed during its last session by the PRESIDENT. The terms of the motion ran thus:—

That the examiners appointed by the Council to assist at the qualifying examinations held by the Apothecaries' Hall, Dublin, be instructed to conduct the surgical portion of these examinations; and, in addition, to supervise the medical and obstetrical portions with the object of securing that at each qualifying examination the required standard of proficiency is maintained.

When the discussion was broken off six months ago an amendment, moved by Sir THOMAS MYLES and seconded by Dr. R. SAUNDBY, was under consideration, and it was in the following terms: "That the motion be amended by inserting after the words 'held by' the words 'the Society of Apothecaries of London and the.'"

Dr. F. G. ADYE-CURRAN (continuing the discussion on the amendment) said that he was in hopes that the Executive Committee might have seen its way after what passed last session to let this matter drop entirely, but he was afraid that he had rather over-estimated its generosity in that respect. He held that the duties of the assistant examiners were entirely confined to the examination proper, and when the examination was done their duties were finished also. It was incompetent that they should also act as inspectors. There was a further inconsistency. The assistant examiners were adepts in surgery, but they were called upon to report what sort of examination was conducted by midwifery experts. The treatment to which the Apothecaries' Hall had been subjected had scared away candidates from it. It had damaged its reputation and injured it from the financial point of view. He would now ask the Council to let bygones be bygones and to allow the examinations of the Apothecaries' Hall to be conducted in the same way as those of other licensing bodies.

At the suggestion of Dr. SAUNDBY the amendment was withdrawn at this stage.

Sir THOMAS MYLES then moved as an amendment:

That the assistant examiners in surgery appointed by this Council be instructed to report to the Council on the character and conduct of the various qualifying examinations at which they may be present and acting.

He said that this amendment would place all bodies to which assistant examiners were sent on the same footing.

Dr. J. LINDSAY STEVEN asked whether this modification of the first amendment was in order.

Sir C. NIXON said that it might be well to point out that it was only in the case of corporations that were unable to enter into combination that assistant examiners were appointed.

The PRESIDENT ruled the amendment in order.

Sir THOMAS MYLES (continuing his speech) said that the terms of his new amendment took away the sting. There was a widespread feeling that the same justice was not meted out to the Irish Apothecaries' Hall as had been meted out in the case of the English institution. Unfortunately, there had been a good deal of hostility to the Apothecaries' Hall. The examinations had been subjected to a course of microscopic examination. His amendment, however, would help the Council to attain to a uniformity of standard throughout the United Kingdom.

Dr. L. S. MCMANUS seconded the amendment.

Sir C. NIXON said that he was in sympathy with the amendment to this extent that the same regulations which had been made with regard to the Apothecaries' Hall of Ireland should apply equally to the examinations conducted by the Society of Apothecaries in London. At the same time surely the Council should have power to ask its officers who assisted at the examinations to report how they carried out their trust. These examiners were appointed to secure a certain uniformity of standard—a certain proficiency of the way in which the examination was conducted.

Sir HUGH BEEVOR said that it was with the intention of producing a uniformity of standard that the special examinations had been going on in connexion with the Apothecaries' Hall of Ireland. In the ordinary course of things they would expect that this result would be attained. Sir Thomas Myles now recommended that they should change their scheme in favour of one of which they had no experience. It did not seem to him logical that because John Smith must be under legal supervision, therefore Tom Smith must also be under legal supervision.

Mr. A. THOMSON asked why the Council did not appoint assistant examiners in medicine and midwifery.

The PRESIDENT pointed out that the Council could only appoint these assistant examiners when the bodies applied for them.

Dr. NORMAN P. WALKER asked whether the inspection of examinations extended to the Apothecaries' Hall of Ireland.

The PRESIDENT replied that inspection had been uniformly applied to the Apothecaries' Hall of Ireland when its turn came, quite irrespectively of supervision.

Dr. D. C. MCVAIL said that he could not support the view taken by Sir Thomas Myles. Because there was another body in London which had also assistant examiners it did not follow that there should be a like examination.

The amendment was lost on a show of hands.

The original motion was carried by 15 votes to 4. Eight members of the Council did not vote.

The PRESIDENT moved further:—

That the examiners be instructed to report fully, for the information of the Council, as to the methods and standards actually adopted at each qualifying examination, and as to the steps they have taken in fulfilment of the duties imposed upon them by Section 5 of the Medical Act, 1886.

Dr. NORMAN MOORE seconded the motion.

Dr. ADYE-CURRAN moved as an amendment:

That the reports by the assistant examiners in surgery of the Apothecaries' Hall of Ireland be discontinued for the present.

He urged that the time had come when the Council might allow the examinations to be conducted in the same way as the examinations of other licensing bodies.

Dr. MCMANUS seconded the amendment, which was defeated by 18 votes to 6, and the motion was then carried by 21 votes to 3.

The Council adjourned.

WEDNESDAY, NOV. 25TH.

The Council resumed its sittings at its offices, 299, Oxford-street, W. Sir DONALD MACALISTER, the President, was in the chair.

Penal Cases.

The Council took up the consideration of penal cases and during the whole of Wednesday, Nov. 25th, and Thursday, Nov. 26th, was engaged in hearing charges against a medical man of infamous conduct towards female patients. The charges, some of which were old ones, were found not proved and were accordingly dismissed.

FRIDAY, NOV. 27TH.

The Council resumed its sittings at its offices, 299, Oxford-street, W., Sir DONALD MACALISTER, the President, being in the chair.

The Council then took up the consideration (adjourned from May 28th, 1908) of the facts proved against Mr. Arthur Ward. The Dental Committee drew up a further report on this case in which the following passage occurred:—

The committee find that Arthur Ward has since the date of the hearing of this case withdrawn the pamphlet complained of and has not since issued, and undertaken in the future not to issue, any pamphlet or advertisement of any kind.

The PRESIDENT (after the Council had briefly deliberated *in camerâ*) announced the decision. He said: I have to announce that the Council having further considered the charge proved against Mr. Ward and the reports of the

Dental Committee thereon does not judge him guilty of infamous or disgraceful conduct in a professional respect.

The next case was one against Mr. Charles Morgan. The complaint against him was referred to the Dental Committee and the committee found that the following facts were established by the evidence:—

The said Charles Morgan is on the Dentists' Register as in practice before July 22nd, 1878, and his address in the Register is 56, Queen-street, Cardiff. The said Charles Morgan has repeatedly advertised in the public press by means of paragraphs containing statements of an objectionable character, and in particular containing laudatory commendations of his own skill and methods, and by implication claiming superiority over other practitioners. The said Charles Morgan alleges that his advertisements were inserted in self-defence against certain quack advertisements which he put in evidence. The said Charles Morgan has, since the service of the notice of inquiry, stopped his advertisements, tenders an apology, and undertakes not to offend again.

Mr. MORGAN appeared and was accompanied by Mr. POLEY, his counsel. The complainants, the British Dental Association, were represented by Mr. R. W. Turner, instructed by Messrs. Bowman and Curtis-Hayward, solicitors to the Association.

Mr. POLEY made a statement on behalf of Mr. Morgan. He said that his client had apologised and was willing to give any further apology the Council might desire. Mr. Morgan inserted the advertisements in self-defence against certain quack advertisements. He promised on no account to advertise again.

Mr. TURNER asked that the promise should be accompanied by an undertaking to conduct his practice in a professional manner.

Mr. POLEY: That is what my client desires to do.

Mr. TURNER: If he undertakes that I have nothing more to say.

The PRESIDENT announced the decision of the Council in the following terms: Mr. Morgan, the Council has given careful consideration to the report of the Dental Committee and has deferred the further consideration of your case until May next, when you will require to be present and to offer satisfactory evidence as to your professional conduct in the interval with particular reference to your promise to discontinue the issue of all advertisements.

The Council then considered the report of the Dental Committee on the charge against Alfred Davis Rogers and Lionel Cartwright Davis. The committee found that the following facts were established by the evidence:—

1. The said A. D. Rogers and L. C. Davis are both on the Dentists Register as in practice before July 22nd, 1878, and their address in the Register is 140, Edgware-road, Hyde Park, London, W.

2. The said A. D. Rogers is a brother of the said L. C. Davis, having changed his name for professional purposes.

3. Both the said A. D. Rogers and the said L. C. Davis deny that the said A. D. Rogers was a partner in, or had any connexion with, the firm of Rogers and Davis at the date of the matter complained of, and the complainant has produced no evidence to refute this.

4. The said L. C. Davis admits that he carries on practice as a dentist in the name of Rogers and Davis at 140, Edgware-road, and also at 34, Liverpool-street, and 174, Victoria-street, S.W., and that he is a sole partner in the firm responsible for what is done at these three places in the name of the firm.

5. A certain Mr. Bonham, an unqualified person, at the time of the offence alleged acted as assistant to the said L. C. Davis at the Liverpool-street branch, and on Oct. 23rd last the said Mr. Bonham scaled the teeth of a Mr. Bridge, who called there with Mr. Maitland, and charged and was paid 5s. for doing this. It is in evidence that the said Mr. Bonham stated to these two witnesses that he was in the habit of performing dental operations there for Messrs. Rogers and Davis and that he took entire charge of the dental practice carried on there, but no other evidence was given in support of the charge. The said L. C. Davis denied that the said Mr. Bonham performed dental operations and stated that he had instructions not to do so. Mr. Bonham, however, was not called.

6. Upon the evidence submitted the committee are unable to find that the facts alleged in the notice of the charge of the said L. C. Davis—viz., that he habitually permits the said Mr. Bonham to attend patients and perform operations upon them, and to practise dentistry on his behalf in the name of his firm—are proved to their satisfaction, and as above stated there is no evidence to show that the said A. D. Rogers was at the time in any way connected with the practice.

Mr. Rogers and Mr. Davis attended in person.

Mr. DAVIS said that if he had inadvertently done anything wrong he would not do it in future. Further, the premises had been closed and Mr. Bonham was no longer in his service.

The PRESIDENT said: In this case the Dental Committee were unable to find on the evidence that the facts alleged had been proved and therefore there is no motion. I have, however, to put it to you formally and I think it will be your wish that the facts alleged against these two practitioners at the Dental Committee have not been proved.

The Council assented and it was intimated to Mr. Rogers and Mr. Davis that the allegations against these two practitioners had not been proved.

This finished the consideration of charges.

The Council deliberated on certain matters *in camerâ* and when the public were re-admitted the PRESIDENT announced that the Council had directed the Registrar to restore to the Dentists' Register the names of Samuel Foley and Algernon Frederick Green.

The Council then adjourned.

SATURDAY, NOV. 28TH.

The Council resumed its sittings at 299, Oxford-street, W., Sir DONALD MACALISTER, the President, being in the chair.

Miscellaneous Business.

The PRESIDENT moved, and it was agreed, that the judgment of the High Court in the dentist case should be placed on the minutes.

A communication was conveyed to the Council through the PRESIDENT from the Secretary of State for the Colonies, asking for a memorandum on penal procedure for the information of Colonial Governments. It was agreed that the President, together with the legal advisers, should draw up a statement of the kind desired and forward it to the Earl of Crewe.

The Administration of Anæsthetics.

The Council then considered a resolution adopted by the Executive Committee in regard to the administration of anæsthetics and instruction in that subject.

The PRESIDENT said that the Privy Council had forwarded a copy of the proposed General Anæsthetics Bill with a memorandum explaining it. The Lord President of the Privy Council desired an expression of opinion with regard to the provisions in the Bill, which was not a Government measure. He had sent to the Lord President the following communication:—

Sept. 3rd, 1908.

SIR,—With reference to your communication of August 24th, 1908, I have to say that it will give me pleasure to lay it before the next meeting of the Executive Committee. As this, however, will not take place before November next I should like to point out to the Lords of the Council that Clause 2 of the proposed Bill appears to involve a virtual supersession of the General Medical Council and ultimately of the Privy Council. By Section 3 (2) of the Medical Act of 1886, the qualifying examinations for medical diplomas are to guarantee the possession of the knowledge and skill requisite for the efficient practice of medicine, surgery and midwifery. It is the duty of the General Council to secure the maintenance of this standard of proficiency. By Section 4, any examining body which fails to maintain it may, on the representation of the General Council, be, by order of the Privy Council, removed from the list of recognised bodies. And lastly, by Section 19, if the General Council fails of its duty the Privy Council may exercise the functions of the General Council and remedy its defects.

Clause 2 of the proposed Bill ignores the whole of this legislation, so far as one particular branch of the efficient practice of medicine, surgery and midwifery is concerned. It legislates directly for examining bodies, "recognised by the General Council" (which term by the way includes bodies in the Colonies, in Italy and in Japan, as well as in the United Kingdom), without reference to the General Council or the Privy Council; and it provides no machinery for ascertaining that the examining bodies fulfil the proposed law, nor any penalty for their breach of it.

As President, I have little doubt that the Executive Committee will think that such legislation is neither desirable in itself nor likely to be effective in practice. No such provision is made for insuring the skilful performance of (say) the grave surgical or obstetrical operation for which anæsthesia is incidentally induced, or the antiseptic precautions on which the life of the patient may depend. These are all included under the term "efficient practice" used in the Medical Act.

I do not anticipate any difficulty in securing, through the existing machinery, i.e. the "recommendation" of the Council, aided by the pressure of "inspection," and if necessary "report to the Privy Council," that all licensing bodies shall make explicit in their regulations, as it is to all intents in their practice, a requirement that their candidates shall have received efficient instruction in anæsthetics. Without specific legislation *ab extra* they have already done so in respect of such special branches as vaccination, surgical dressing, and the like.

Clause 1 of the proposed Bill appears to me to contain what is essential for the protection of the public in this department of practice. It would indeed be well if it could be extended to all departments of practice by which life or limb is endangered.

I am, Sir, &c.,

DONALD MACALISTER, President.

That answer had been considered by the Executive Committee which had arrived at the following resolution:—

(*a*) That the memorandum and proposed Bill be reported to the General Council with the statement that the Executive Committee approve the terms of the President's reply dated Sept. 3rd, 1908, addressed to the clerk of the Privy Council, and the recommendation that the Council should inform the Lord President that the Council approve the principle of first clause of the proposed Bill, but is unable to support the provisions to which objection is taken in the President's letter. (*b*) That the Registrar be directed to communicate with the

licensing bodies calling their attention to the recommendation of the Council of May 30th, 1907, and inquiring how far they had given effect to this recommendation by requiring students to produce evidence of having received practical instruction in the administration of anæsthetics.

In explanation, said the PRESIDENT, it ought to be said that the first clause of the Bill practically prohibited under a penalty any person who was not a legally qualified medical practitioner administering a general anæsthetic for any surgical or medical operation, act, or procedure, or during childbirth. The Executive Committee desired the Council to approve that principle. The other proposal was contained in Clause 2, which provided that "all examining bodies recognised by the General Council of Medical Education and Registration of the United Kingdom shall require that all candidates before presenting themselves for their final examination shall have received thorough theoretical and practical instruction in anæsthetics, and shall have personally administered anæsthetics under the supervision and to the complete satisfaction of their respective teachers." The objection to that was that it would override the functions of the General Medical Council. Such an enactment had not been found necessary in regard to other branches of medicine, surgery, and midwifery, and as the clause provided no penalty for its infringement it would be practically valueless.

It was then agreed that the first part of the Executive Committee's recommendation should be approved.

The PRESIDENT said that with regard to the second part of the committee's recommendation they felt that the resolution of the General Medical Council transmitted to the licensing bodies within the last year was one to which their special attention should be called in view of the interest taken in the subject in high quarters and of its importance, and that it might serve to emphasise the force of their recommendation if they communicated with all licensing bodies asking what steps they had taken to give effect to it. Accordingly, the committee recommended that the Registrar should be directed to communicate with licensing bodies calling attention to the recommendation of the Council of May 30th, 1907, and asking how far they had given effect to the recommendation by requiring students to produce evidence of having received practical instruction in the administration of anæsthetics.

On the motion of the PRESIDENT this recommendation of the Executive Committee was also adopted.

Advertising by Dentists.

The consideration of a resolution adopted by the Executive Committee in regard to a communication from the British Dental Association was the next business before the Council. This communication inclosed the following resolution passed at the annual general meeting of the association:—

That in the opinion of this association advertising by certain registered dentists has contributed greatly to the growth of illegal practice by misleading a large proportion of the public, who, for this reason, fail to distinguish between the registered and unregistered practitioner. That the General Medical Council be earnestly requested to take immediate action to suppress as infamous conduct in a professional sense all advertising by registered dentists.

The committee also had before it a communication from Mr. A. H. HIGGS on behalf of himself and other registered dentists objecting to the resolution

Because it goes far beyond the terms of the resolution of your Council on the same subject passed in 1894, which was decided upon after mature consideration of the statutory conditions regulating the practice of dentistry.

The communication also set forth that

The Dentists Act itself contains no provisions specifically dealing with advertising, and certainly is far from prohibiting advertising altogether. Advertising was, in fact, practised before 1878 by dentists; at any rate, by the majority of the class who were registered by virtue of their being then in actual practice, so that any alteration in this respect would be an alteration in the conditions under which registered dentists were entitled to remain on the Register after they had once obtained registration. We feel that such an alteration would be unfair.

On this matter the Executive Committee submitted the following resolution:—

The Executive Committee desire to point out that the General Council have no power to legislate or to issue resolutions binding upon the profession and having absolute prohibitive effect. And in view of their judicial functions in particular cases of professional misconduct, it is not desirable to pass a resolution condemning any practice in general terms until a series of cases decided before them has so clearly demonstrated the prevalence of that practice as to call, in the opinion of the Council, for a warning notice to the profession.

Mr. TOMES thought the existing resolution, the gist of which was that the issue of advertisements of an objectionable character might be carried so far as to constitute infamous and disgraceful conduct in a professional respect, was strong enough for the Council to act upon if necessary. He proposed to move the committee's recommendation in the following modified form:—

The General Council desire to state that they have no power to legislate or to issue resolutions binding upon the profession and having absolute prohibitive effect, and in view of their judicial functions in particular cases of professional misconduct it is not at present desirable to pass any further resolution.

Sir THOMAS MYLES seconded the proposal.

Dr. SAUNDBY said the resolutions passed by the Council had had a prohibitive effect, and if the Council now declared they had no binding effect and might be disregarded they would do a great deal of harm. He suggested that the resolution should read:—

The General Council desire to state that in view of their judicial functions in particular cases of professional misconduct it is not at present desirable to pass any further resolution on the subject of advertising by dentists.

Mr. TOMES accepted this form of the resolution and it was then agreed to.

Report of the Education Committee.

Dr. MACKAY, who was indistinctly heard, submitted a report on the curriculum in medicine from the Education Committee. Of recent years, he said, the whole question of the curriculum had been repeatedly raised before the Council and proposals had been remitted to the committee. The argument put forward by those gentlemen whose motion was remitted to the committee was that they were finding the subjects for study for the Final Examination apt to be neglected, particularly by those who had spent too long over the earlier examinations of their course and who had been retarded to such an extent that they had to make good the time lost on the earlier subjects at the expense of the later ones. There should be nothing of that kind. The tendency would be to spoil the work for the Final Examination, for which many would prepare by cramming and not educating themselves. That appeared to constitute a great danger and it was to that that the Education Committee had turned its attention. It was necessary to find out whether men were devoting less time to the Final than they should and whether the Final was being shirked in any way. The committee had collected statistics from all the licensing bodies on the subject. Their report said:—

An examination of the figures makes it evident that there is wide divergence among the licensing bodies in respect of the periods allotted to the study of the subjects pertaining to the several professional examinations. Each body has what may be called a possible minimum course, which in most cases is clearly expressed in the regulations, and in the others, although not absolutely defined, may readily be deduced from the statistics presented as that followed by the individual students who pass unchecked through the curriculum. To simplify comparison a division of the whole course into two periods has been adopted. The first includes the time spent in the study of the preliminary sciences and of anatomy and physiology and extends to the completion of the examination in these subjects. The second includes all the remainder of the curriculum. In the preparation of the statistics pharmacy has been left out entirely owing to the great diversity of the conditions among the licensing bodies under which it is examined upon. In respect of the main outlines of the curriculum the bodies may be divided generally into three classes, viz.:—

Class 1, in which the first period of the course extends to two years, 21 or 24 months as the case may be. The arrangements in this class probably approach more closely than those of the others to the original intentions of the Council with reference to the subdivision of the curriculum. The class includes the University of Dublin, the University of Durham, the University of Birmingham, and the Conjoint Examining Board in Ireland.

Class 2, in which the first period of the course occupies less than two years, practically 18 months, and in which the second period is correspondingly prolonged. This class includes the Conjoint Examining Board in England and the Conjoint Examining Board in Scotland.

Class 3, in which more than two years are required for the first period. The remaining bodies, the statistics of which have been analysed, belong to this class.

It was evident from a consideration of the facts that in the case of all the bodies included within the third group there was of necessity a certain amount of what might be called normal overlapping study between the subjects of the first and second periods of the course. In every instance three years' hospital attendance was given and in most final subjects such as pathology and surgery claimed a portion of the student's attention in the third year. Dealing with retardation, Dr. Mackay said their report stated:—

The course may be lengthened as a whole in individual instances, or the first period may be lengthened and the second correspondingly shortened, by failure or delay on the part of the student in passing the examinations. What happens most frequently, as the statistics show,

is that the first period is very considerably prolonged by retardation while the second is only slightly lengthened. It is evident that the majority of the students when they suffer delay in any particular examination continue the ordinary course of study and frequently make good in whole or in part in the later years the time lost in the earlier portion of the curriculum. Thus there arises in all the bodies an overlapping of studies not due to the conditions of the curriculum, but dependent upon failure on the part of individual students.

With regard to the statistics the committee had collected, he said he had been surprised to see that there was not so much encroachment upon the Final Examination by the earlier examinations as at first sight seemed likely, and in a great many bodies there was no encroachment at all. But a close examination of the tables would reveal the fact that the Final Examination had not received its fair proportion of additional months of study. That was the state of matters with which they had to deal. What was the remedy? One proposal was that the whole course should be lengthened, but the committee failed to find any justification for recommending this extreme step. Not one of the licensing bodies appeared to be in favour of lengthening the course and there was no opinion in the profession pointing towards lengthening the course as a whole. The feeling seemed to be that the best men could get through the work in the prescribed time and that no barrier should be put in their way. Another suggestion was that the preliminary sciences should be cut out of the medical curriculum, thereby giving more time for the study of the later work. That question was recently debated by the Council and the decision was that it was not necessary at the present moment to cut the preliminary sciences out of the curriculum. The Education Committee therefore did not bring forward any proposal for excluding from the curriculum the preliminary sciences. The committee recommended the following proposal for the approval of the Council:—

> That the regulations of the licensing bodies should be so framed that not less than 18 months of undivided study, or a period equivalent in time-value thereto, where overlapping study obtains (half value being allowed for periods of overlapping study), should be set aside for the first period of the course, extending to the completion of the examination in anatomy and physiology; and that not less than the equivalent in time-value, similarly calculated, of 27 months of undivided study be set aside for the second period of the course.

Personally he thought that there was nothing objectionable in overlapping. What was important was to see that adequate time was given to each of the great groups. There was only one solution of the difficulty—that they should suggest that a reasonable limiting period should be set for the study of each group of subjects. As would be seen by the proposal submitted, the committee had divided the course into two periods. The first (18 months) would extend to the completion of the examination in anatomy and physiology and the second period should never fall below an equivalent of 27 months of undivided study. The recommendation of the committee was to set a limit to the earlier studies. The limit of 18 months which was proposed was at first sight a small one. What had been done was to take the limit which was in existence at present amongst the licensing bodies. No doubt in the course of time it might happen that the preliminary sciences would be dropped out of the curriculum and would be put in a period before the actual medical studies. At this moment it stood as part of the regulation of the Council that the preliminary sciences should be counted as part of the medical curriculum. 18 months was a small limit for these subjects and the subjects of anatomy and physiology. Therefore this recommendation would interfere with no body in the present circumstances, but it would prevent any limitation in the amount of time given to the earlier subjects. He did not think that they would have any special difficulty in that, because they were making no alteration. There was another point. He had been asked by a member of the Council to say something on the practical working of the proposal with regard to exemption. There were a number of colonial students who came over and took their degrees after having given a requisite attendance. This proposal would in no way affect the situation. In every case where exemption was granted by the licensing body the student had to show that he had taken a course equivalent to the course of the licensing body. If his proposal was adopted in the future the licensing body would just ask the student the details of his course. If he had done something less he would not be accepted. The Examination Committee had suggested the very least possible interference with the present distribution of the curriculum. They could not possibly have suggested a lesser degree of interference. He thought the Council should take an interest not only in the examination but in the teaching of the medical sciences. It would be an important step if the Council adopted the conclusions of the committee. In conclusion, he moved the adoption of the proposal recommended by the committee for the approval of the Council.

Sir C. NIXON seconded the motion.

Dr. SAUNDBY expressed dislike of any further limitations of the curriculum by any hard-and-fast rules. Supposing a student passed in anatomy at the end of his third year and had on the previous two years been attending hospital how much longer would his course be?

Dr. MACKAY: He has two years more to go.

Dr. SAUNDBY did not think this would cause any harm but the Council must have time to consider the subject. It would better give time for consideration if they were to postpone the matter.

Sir C. NIXON was understood to say that not all the licensing bodies would consent to any arrangement which would prevent a medical student attending the hospital earlier than his third year.

Sir JOHN MOORE, speaking as a clinical teacher, observed that although it might be a counsel of perfection to postpone the attendance at hospitals until the third year, it would be a good thing for the medical profession when such a regulation was made compulsory. The sooner the student was able to master his chemistry, physics, and biology, and so give his undivided attention to sickness and surgery, the better for the medical profession.

Mr. THOMSON did not think the report had gone to the root of the matter. He thought that at present sufficient conditions and restrictions were imposed on the unfortunate medical student.

Sir CHARLES BALL could not quite see what machinery could be introduced by the licensing bodies actually to comply with the recommendations as they were now brought forward. He would give one case as an example. Supposing that a student was rejected in anatomy and physiology at the beginning of his third year or the end of his third year. There was nothing which would prevent that man taking an additional course of anatomy at the beginning of his fourth year. How were they to prevent him taking the final subjects in the fourth year? The only measure the Council could have would be to require him to pass his examinations in anatomy and physiology before proceeding with his final subjects. He thought the resolutions of the Examination Committee as they appeared at present were colourless and ineffective. The Council should not take a vote upon them as being recommendations to the licensing bodies as more time was required for their consideration than could be devoted to them now.

Sir THOMAS MYLES was understood to say that the general tendency of opinion in Dublin was as indicated by Sir John Moore, which was that the medical student would be more fit for clinical instruction if he had two years' preliminary study before proceeding to it. He laid before the Council various considerations as to the relative capacities of different students to obtain a knowledge of subjects. If a system of "watertight compartments" were adopted in the curriculum they would exclude a large number of men from the medical profession. He also thought that further time should be given for the consideration of the subject.

Dr. NORMAN MOORE thought that the idea of the Examination Committee in bringing forward the subject of its recommendation at this stage was not that a decision should be come to at once. Its object, it seemed to him, was to make the result of the committee's work known to the Council and through the Council to the public at large, and thus to encourage preliminary discussion. Everyone must admit that such an end was useful. The only way in which the Council could get on in the maze of medical education was by educating itself to the mysteries of the subject. With regard to the very first part of the curriculum, the Royal College of Physicians, with a view to a very serious effort to induce the student to get instruction before he entered his medical course, had at great expense inspected schools and laboratories and had laid down regulations as to the precise amount of instruction to be given before they gave a certificate. They had undertaken to examine in these subjects at the beginning of the student's career. It took a long time to bring any change into operation. As a clinical teacher in a medical school in

London he could remember when there was no restriction on the student's course and when he might at any period of his studies go into the wards and pursue clinical studies while he had not done the first part of his course. The general custom of medical schools was now to prevent a man beginning his clinical studies before he had finished his preliminary studies. Of course, whether it would be wise to have a "watertight compartment" between the preliminary scientific studies and the clinical studies was a subject open to debate. He was certain that nothing whatever was gained by allowing students who had examinations in earlier subjects hanging over them to go on with the Final Examination. Therefore, he strongly approved of giving—and he thought the Council ought to give—every encouragement to the licensing bodies to insist on the period of clinical studies being invaded by no other studies whatever. If it was laid down that the period of clinical study should not be counted until a man had finished his anatomy and physiology, that would lead to an increase in the knowledge of clinical surgery on the part of practitioners when they were admitted to the Register. But the object of the chairman of the Education Committee at present was to bring about a general discussion on the subject.

Dr. NORMAN WALKER said that he had had an opportunity of discussing the subject of the report with three different licensing bodies. In each of these bodies there had been some difficulty in understanding the report. After thorough discussion each of these bodies had come to see that the report was a very reasonable one and the suggestion was one that could be given effect to. The particular proposal that two years and three months should at least be given to clinical work was a thing which would commend itself to every teacher. He thought that it should be made clear that it was clinical instruction that this report particularly dealt with and that the licensing bodies and the universities had in their discretion the regulation of the earlier education. They had in their own control the amount of anatomy and physiology to be taught. All that the members of the Council would like in the interests of the public was that the students should be well instructed in clinical surgery and medicine.

Mr. HODSDON considered that if the medical student knew that he was to have his second period lengthened unless he mastered the preliminary scientific subjects in the allotted time he would work more diligently during his first period. He was not clear with regard to the exemptions of Indian and colonial students.

Dr. LINDSAY STEVEN said that he agreed with the view expressed by Sir John Moore that anything which would permit of the student having his preliminary sciences and his anatomy and physiology over before he actually began hospital work would have a beneficial effect on medical education. With regard to the matters brought before the Council by Dr. Mackay the body which he represented had given careful consideration to the subject and it agreed that no regulation for lengthening the curriculum should be made by the Council. They were more in favour of what was called "the blocking system"—not allowing a student to proceed further until he had passed in his earlier subjects. He had been a clinical teacher for 25 years and from his experience he believed that it interfered with the practical instruction of the student if he was still reading for examinations in anatomy and physiology and it might be with earlier subjects. The body which he represented emphasised the need of devoting the fifth year entirely to clinical work.

The PRESIDENT said the complaint had been made that the earlier subjects were encroaching on the time given to the later subjects, and to verify whether that complaint was well founded required careful analysis of actual facts. That analysis had been made by Dr. Mackay, to whom the whole profession was profoundly indebted for the work he had done. No one could doubt that encroachment on the final stage of the curriculum did take place by reason of the undue extension of the earlier stage. That fact was ascertained for good and they had to face it. The remedy suggested by the Education Committee was that not less than a certain time should be allotted to the subjects in the final stage. He suggested that the issue should be concentrated on the single point of what was the minimum period which by regulations of the bodies should be devoted to the subjects of medicine, surgery, and midwifery. That would be intelligible to the public and the profession.

Mr. MACKAY said that he would be willing to withdraw the proposal and the Education Committee would consider the question again in the light of the debate which they had had that day. The subject caused considerable difference of opinion but he hoped that in time they would all get into one channel. The differences had chiefly been on the questions of overlapping and "watertight compartments." Some had said there should be no overlapping, but, on the other hand, a large number of the bodies at present countenanced overlapping to a large extent, and he thought the Council would find it difficult to put a stop to it. The committee in the interval would endeavour to find a solution of this and the other questions that had been raised.

The matter was then remitted to the Education Committee for further consideration.

The Apothecaries' Hall of Ireland.

The Education Committee submitted the following report:—

The Education Committee had under consideration the following communication:—

"Apothecaries' Hall, Ireland, 40, Mary-street, Dublin,
November 12, 1908.

"H. E. Allen, Esq., LL.B., Registrar, General Medical Council.

"DEAR SIR,—I beg to inclose for the information of the General Medical Council the following resolution which has been passed by my board at its last meeting.

"Yours faithfully,

"HENRY W. MASON, L.R.C.S.I., Secretary.

"Resolved:—'That after the 1st of April, 1909, the usual preliminary examination in general education which was held by this body for so many years be resumed.'"

This is an intimation, the report proceeds, that the authorities of the Apothecaries' Hall, Dublin, intend next year to revive the preliminary examination in arts which, in deference to the express wish of the Council, they have for many years discontinued. The committee are unaware of any circumstances which would justify so serious a reversal of the educational policy which, at the Council's instance, has been generally adopted by the licensing bodies, including the Apothecaries' Hall. The committee, therefore, strongly deprecate the proposed re-establishment of a preliminary examination conducted by a professional body which has no special relation to questions of general education. Should such an examination be notwithstanding instituted for candidates seeking the licence of the Dublin Apothecaries' Hall, it will rest with the Council to decide whether it should be recognised for the purpose of the registration of students in general. Such recognition would affect in a practical way the arrangements of other licensing bodies in regard to preliminary examination.

Accordingly the committee, in view of the grave educational issues involved, recommend that the Council's approval should not be given to the step contemplated by the Apothecaries' Hall, Dublin.

Dr. MACKAY moved the adoption of the report. Exactly the same intimation was received by the Council, he said, in 1903, when a motion was carried in certain definite terms. The committee saw no reason to change its mind and it had replied in the identical words of the resolution of 1903. The policy of the Education Committee had been to try to reduce the number of preliminary examinations and to insure that such examinations were only conducted by bodies which were general educational authorities.

Dr. LINDSAY STEVEN seconded the motion.

Dr. ADYE-CURRAN said that when some years ago the Apothecaries' Hall in deference to the Council ceased to hold preliminary examinations there was a condition that the Colleges of Physicians and Surgeons in Dublin should cease to examine also. That had not been done and for that reason the Apothecaries' Hall were working at a discount. In future the accommodation for students would not be sufficient and that was the reason why the body which he represented was anxious to resume its former examinations.

Sir C. NIXON said that the policy of the Council had been adverse to the conduct of preliminary examinations by bodies that conferred the licences. With regard to the examinations held by the joint Colleges of Physicians and Surgeons in Ireland a strong representation was made by the Education Committee to discontinue the examination. They acquiesced and sent a joint memorial to the Intermediate Education Board in Ireland, asking that body to hold special examinations at suitable times in the year for medical students. The Intermediate Board replied that the expense would be beyond what it could afford and in those exceptional circumstances the Council allowed the preliminary examinations by the joint Colleges to be retained. It would be a complete reversal of the policy of the Council to introduce a second body dealing with professional education to conduct preliminary examinations.

The PRESIDENT said that it would be extremely serious if the Apothecaries' Hall took any action which would tend to

break down the system which the Council was endeavouring to set up.

The report was then adopted.

Public Health Rules.

Mr. THOMSON moved:—

That it be referred to the Public Health Committee to consider the advisability of substituting in Rule I. of the resolutions and rules relating to public health, the words "nine months" in place of the words "twelve months," as at present.

Owing to the conditions laid down in Rule I. he said that a period of not less than 12 months had to elapse between registered qualification and the admission of any candidate to any examination. That added three months to the curriculum of nine months, during which the candidate might be doing nothing. That was a hardship, especially in cases where graduates might wish to proceed with all possible haste to the colonies, but before doing so wished to obtain this special qualification.

Dr. WALKER seconded the motion which was agreed to.

The Report of the Pharmacopœia Committee.

On the motion of Dr. NORMAN MOORE the report of the Pharmacopœia Committee was received. This report, which is signed by Sir Donald MacAlister, the President, states that from May 25th to Nov. 21st, 1908, the number of copies of the British Pharmacopœia (1898) sold by the publishers was 537. The total number of copies sold in the year beginning Nov. 18th, 1907, was 1125. Up to the present time 40,306 copies of the Pharmacopœia and 4447 copies of the Indian and Colonial Addendum have been sold. The stock of the Pharmacopœia now on hand consists of 2724 copies, together with 1887 copies of the Addendum. A third interim report from the Committee of Reference in Pharmacy has been received, containing suggestions for the revision of certain monographs of the Pharmacopœia (1898), with proposals respecting the official tests for lead, and the articles to which these tests should be applied. It is proposed to publish the three reports now presented in order that the Pharmacopœia Committee may have the advantage of noting the criticisms or other comments which may be publicly made upon the suggestions therein contained. A tabular analysis of the suggestions made by the medical licensing bodies of the United Kingdom, for the inclusion or omission of articles in the next Pharmacopœia, has been prepared by the secretary, Dr. N. Tirard. Similar suggestions are now being received from the various British medical authorities outside the United Kingdom. When the whole of the information from these sources is ready for consideration the committee will be in possession of a body of material which will be of great value to it in its task of adapting the new Pharmacopœia to the needs of the Empire at large.

No discussion took place on this report.

Students' Registration Committee.

On the motion of Sir HUGH BEEVOR, the report of the Students' Registration Committee was approved.

Unqualified Practice Prevention Committee.

Dr. LANGLEY BROWNE submitted the report of the Unqualified Practice Prevention Committee. He explained that the committee was appointed to ascertain what legal provisions existed in the colonies and dependencies of the Empire and in foreign countries for the prevention of medical practice by other than legally qualified persons, and to consider what steps should be taken to procure effective legislation for the same purpose in the United Kingdom of Great Britain and Ireland. In the end of 1907 the Registrar, by the direction of the President, forwarded a communication to the Privy Council, asking that the Lord President would be so good as to communicate with the Foreign Secretary, the Secretary of State for India, and the Colonial Secretary, in order that the information desired by the Council should be obtained through the proper channels. The Lord President did so and the information obtained was most voluminous. The information had been digested and tabulated as an appendix to the report. This digest of all laws in force within the British Empire and in foreign countries showed what provisions existed for the prevention of medical practice by other than legally qualified persons. It had been drawn up by the officers of the Council and had given them a large amount of extra work. He did not know what the committee would have done without the aid of the President and the office staff. The President, indeed, with his great knowledge of languages was able to give them invaluable assistance, and indeed he believed that almost every language in which the information was received was known to him. The information now brought together by the committee was very complete and valuable and it contained much information not hitherto published. As members of the Council would see from the report, it contained official information from all countries except the United States. The Registrar had applied to the Embassy of the United States with a request for the same kind of information as to the laws in the several States of the American Union and its Territories, but no answer had yet been received. The digest had therefore been supplemented by a statement drawn up by Dr. Bateman from the Medical Acts of the different Federal States and from the Provincial Acts in the Dominion of Canada. Every member of the committee, continued Dr. Langley Browne, was aware of the injury done to the public by the practice of unqualified persons and companies, which is carried on with immunity in this country. As the report further showed, the committee believed that sufficient protection against such injury was not afforded to the public by the present Medical Acts; that the injury was grave and was increasing; and that a remedy must be found in legislation such as existed in most civilised countries. The committee, however, recognised that, before remedial legislation could be looked for, it was necessary that the public should be made more fully aware of the dangerous abuses which existed under present conditions. To this end it was desirable that full inquiry should be made by the authority of His Majesty's Government and the committee was prepared to assist in the production of evidence should such an inquiry be instituted. The Council would see by the report that the committee recommended that the Government should be asked to appoint a Royal Commission to investigate the subject and he thought that they had a fair chance of getting a commission appointed. In conclusion he moved that the Council should adopt the following motion recommended by the committee and transmit it to the Lord President of the Privy Council:—

That the General Medical Council, being of opinion that the present Medical Acts do not sufficiently enable "persons requiring medical aid" "to distinguish qualified from unqualified practitioners," and that it is contrary to the interest of the public that medical and surgical practice should be carried on with impunity by persons holding no recognised qualifications, requests the Government to take steps for the appointment of a Royal Commission to inquire into the evil effects produced by the unrestricted practice of medicine and surgery by unqualified persons.

Dr. LATIMER, in seconding the motion, joined in expressing the gratitude of the Council to the President for his valuable services to the committee. He considered that the time was propitious for applying to the Government for the appointment of a Royal Commission. The nation was, he thought, becoming more and more willing to restrict the practice of unqualified persons in various departments of the healing art. There had been a sympathetic response in such matters as the question of midwives. That the legislature had done something to suppress the unqualified midwife was a very encouraging sign. There had been an appreciation of the necessity of dealing with infantile mortality. In his opinion there had been no falling off in the favour shown to measures of this kind. He believed that they were going to the Government at a very proper time to ask its help, and he thought that they would get a sympathetic response. He commented on the steps taken in the colonies and abroad to check unqualified practice. The tendency had been in this country to regard the title as the sign of qualification, but in some countries the law went much further. In Natal, for example, the law penalised any person who being unqualified exercised the functions of a physician. He feared that the medical profession could not yet hope to get comprehensive measures of that kind carried in this country.

Dr. NORMAN MOORE regarded the report of the committee as most valuable. The only part of it which appeared not perfect was that relating to the United Kingdom, but a little research might be given to this part of the subject.

The motion was agreed to.

The Apothecaries' Society of London.

On the motion of Sir HUGH BEEVOR Mr. Charles Stonham, C.M.G., F.R.C.S. Eng., was appointed assistant examiner in surgery to the Apothecaries' Society of London for a period of two years from June 16th, 1908.

Tuberculosis Prevention (Ireland) Bill.

The Council then took up consideration of a report of the Irish Branch Council with regard to a point in the Tuberculosis Prevention (Ireland) Bill now under consideration of the House of Commons. The report was in the following terms:—

The Branch Council desires to bring under the notice of the General Medical Council that it is proposed by Clause 1, Sub-Clause 2, that "the Local Government Board, after consulting with the Irish Branch of the General Council of Medical Education and Registration of the United Kingdom, shall from time to time, by order, prescribe the forms and stages of tuberculosis to which, and the circumstances in which, this section shall apply." The Irish Branch Council, while quite willing to undertake the duty, is of opinion that it would be inequitable that the expenses incurred in discharging this duty should fall on the Irish Branch or on the General Council and desires an expression of the opinion of the General Medical Council on this subject.

Dr. LITTLE moved that the opinion of the Irish Branch Council should be adopted as the opinion of the General Medical Council. The Irish Branch suggested that its views should be brought to the notice of the Government and that the Government should introduce a clause providing for the necessary financial aid.

Dr. NORMAN MOORE asked whether the Royal College of Physicians and the Royal College of Surgeons in Ireland had been consulted in the matter.

Sir JOHN MOORE replied that even the Irish Branch Council had not been consulted.

Sir C. NIXON remarked that the Council should say that it expressed no opinion on the merits of the Bill. It was an extremely cumbrous one and it involved the expenditure of money. It was not likely to get the good results which were intended.

The PRESIDENT thought that it should be made clear that the duty imposed by the Bill on the Irish Branch Council was one involving expense on it and on the General Medical Council and neither was able to bear that expense.

After a short discussion the Council assented to the motion and the PRESIDENT intimated that he would write to the proper quarter expressing the view of the Council on the precise point before it, and expressing no opinion on any other part of the Bill.

Nurses' Registration Bill.

The PRESIDENT said that there was a motion on the notice paper with regard to the Nurses' Registration Bill, but before Sir John Moore moved it he might say a word or two in explanation. The General Medical Council was to have a representative on the council to be set up under the Bill. The rules to be issued by the Nursing Council were not to be submitted to the General Medical Council before they were approved of by the Privy Council as was the case with the rules of the Central Midwives Board. It had been thought by the promoters of the Bill that direct representation would be a more efficient way of proceeding than by submitting the rules to the General Medical Council.

Sir JOHN MOORE then moved:

That it is expedient that the General Medical Council should stand in the same relation to the proposed General Council for the Registration of Nurses in the United Kingdom as the said General Medical Council does to the Central Midwives Board under Sections 3 and 16 of the Midwives Act, 1902.

He said that whilst this was not a Government Bill when it was introduced into the House of Lords, it was nevertheless adopted by the Earl of Crewe and the Government had given its support to it, even although only indirectly. The Council had had a very important say in the matter of the rules which were promoted by the Central Midwives Board, and these rules had been submitted to the English Branch Council acting for the General Medical Council. He did hold it was most desirable that some influential body like the General Medical Council should have some say in the rules which were to be adopted by the proposed Nursing Council. That council was to frame rules regulating its own procedure and setting out the course of training and other matters. It was most important that the medical profession should see that those rules did not in any way countenance the practice of medicine or surgery by the nurses who went on that Register. The only way to prevent that was to have the rules submitted to a medical body, such as the General Medical Council. The nurses should be placed in the same position as the midwives. He understood that the General Medical Council was to have a representative on the new council proposed by the Bill. It would be quite competent for him to report any rules to the General Medical Council to which he thought exception should be taken and it then could make representations. However, he would rather have the rules submitted to the General Medical Council.

Mr. MORRIS seconded the motion.

Dr. NORMAN MOORE thought that the Bill was a very serious matter. One effect of the Bill might be to establish an inferior but very powerful order of practitioners throughout the country. There were at the present time nurses who were consulted by families instead of a medical practitioner. The Bill, so far as one could judge, would tend in that direction. Therefore its working should be carefully watched.

Mr. MORRIS thought that the procedure adopted under the Midwives Act would be preferable to that now proposed.

Dr. LANGLEY BROWNE said that the medical profession was unanimously in favour of the registration of nurses. The Bill would be as great an advance to the nurses as the Medical Act was to the medical profession.

Sir C. NIXON said that it might be a great advance for nurses but would it be an advance to general practitioners? The proposals in the Bill would seriously interfere with the interests of general practitioners and he could not understand why they supported the Bill. The Bill ought to have been carefully considered by the Council to see what effect it would have on the medical profession.

Dr. LINDSAY STEVEN said the result of his experience was that he was on the whole opposed to the registration of nurses on the lines of the registration of medical men, because the Medical Register was the one which the nurses had always had in view in bringing forward the scheme which was in this Bill. The Council ought to have direct control over the registration of nurses and he would rather that the Council opposed the Bill altogether.

The PRESIDENT said that the Bill had passed the House of Lords and as it had now only to pass the House of Commons it might be law before the Council met again. Did the General Medical Council object to be represented on the Central Board? As the result of an informal vote the majority of the Council seemed to be in favour of the proposal made in the Midwives Act rather than the one in the present Bill.

Dr. MCVAIL said that the Bill practically proposed to create an inferior department of the medical profession. A great deal that was done among the poor by medical men would be done by nurses who would soon begin to do medical work and surgery. The General Medical Council ought to look at this matter from the public point of view, and if the Council adopted this motion it would mean that it approved the whole Bill. He was not prepared without further consideration to approve the Bill even with the changes proposed to be made by Sir John Moore. He regarded it as injurious in the interests of the public if there was going to be founded another branch of the medical profession. He did not like this kind of thing being sprung upon the Council in this way.

Sir C. NIXON moved as an amendment that the Council having no opportunity of examining the provisions of the Bill should express no opinion as to whether it was desirable that it should be enacted by Parliament.

The PRESIDENT remarked that the Privy Council knew that the Council had recommended the registration of nurses. He read a resolution on the subject which had been passed. How could it go against its former resolution? It would be better if the members confined themselves to the points given to them for consideration and say that they had had no opportunity of discussing the other points in the Bill.

Sir C. NIXON said that they might be in favour of a certain measure of registration for nurses, but yet not in favour of a Bill which was to create an inferior order of practitioners in medicine. The Council should have an opportunity of discussing the Bill.

The PRESIDENT: That could scarcely be done unless the House of Commons put off the Bill.

Dr. MCMANUS said that the vast majority of the practitioners were in favour of the registration of nurses. They wanted to know when they called in a nurse in a poor district that they would get a woman who had been properly trained and properly examined and of whom there was some guarantee about her responsibility and competence. Many a woman now of rather reprehensible character could put on a nurse's hat and cloak and call herself a nurse. If this Bill were passed medical men might be able to prevent this class coming forward.

Dr. LATIMER remarked that a qualified nurse was much more prone to call in a medical man than was the old unqualified woman.

On a vote the amendment was rejected by 17 votes to 3. The motion was then agreed to.

Proposed Additional Member of Council.

Dr. Langley Browne had the following motion on the agenda:—

That representations be made to the Privy Council that it is expedient to confer on the registered practitioners resident in England and Wales the power of returning an additional member to the General Council.

With the consent of the Council he postponed the motion till next session owing to the shortness of the time available at the present session for its consideration.

Methods of Clinical Teaching.

For the same reason this course was also adopted by Dr. Lindsay Steven who had intended to propose the following motion:—

That the Education Committee be instructed to obtain information as to the methods of clinical teaching in medicine and surgery in operation at the various medical schools of the United Kingdom, and to report to a future meeting of the Council.

An Application for Registration.

The Council then considered an application for registration by Mr. CHARLES REGINALD EDWARDS, Mem. R. Coll. Surg. Eng., 1884, Lic. R. Coll. Phys. Edin., 1884, a medical practitioner entitled to be registered under the Medical Act (1858), but who neglected to effect such registration until after the "appointed day" (June 30th, 1887) under the Medical Act (1886). The application was duly considered by the English Branch Council on Nov. 25th, 1908, when the following resolution was passed:—

That the Branch Council recommends to the General Council that Mr. Charles Reginald Edwards be registered.

This was agreed to.

Dr. NORMAN MOORE moved a vote of thanks to the President for his able services in the chair and this having been heartily accorded the business of the session ended.

THE REPORT OF THE INSPECTOR UNDER THE INEBRIATES ACTS FOR THE YEAR 1907.

Dr. R. Welsh Branthwaite, the inspector for England under the Inebriates Acts, in presenting his report for the year 1907, restricts himself to little more than the publication of figures on the ground that as he is a member of the Departmental Committee which was recently appointed to inquire into the working of the Inebriates Acts he must avoid comment upon those matters of policy which may presumably be considered *sub judice*. The institutions which are under his inspection are (1) State inebriate reformatories; (2) certified inebriate reformatories; and (3) inebriate retreats; and it may be well to define the scope of the work done under these three sections, so that the figures quoted may assume their real significance.

1. *State inebriate reformatories* are two in number—one for males at Warwick and one for females at Aylesbury. In these the worst cases are dealt with—those who prove too refractory for further control in certified institutions. They may be regarded as being more of a penal than of a reformatory character. During the year 30 men and 32 women were admitted on transfer from certified reformatories and one man and three women directly from courts.

2. *Certified inebriate reformatories* are 11 in number, one, Abbotswood House, Cinderford, Gloucester, being maintained exclusively for males, while the following eight are for females: Royal Victoria Home, Horfield, near Bristol; Duxhurst, near Reigate; Farmfield, Charlwood, Horley, Surrey; Midland Counties Inebriate Reformatory, near Chesterfield, Derbyshire; Southern Counties Inebriate Reformatory, Lewes, Sussex; North Midlands Inebriate Reformatory, Ackworth, Pontefract; Lancashire Inebriate Reformatory, Langho, Blackburn; Eastern Counties Inebriate Reformatory, East Harling, Norfolk; and at Brentry Inebriate Reformatory, Bristol, and the Yorkshire Inebriate Reformatory, Cattal, near York, both sexes are received. Some of these reformatories are maintained by counties or groups of counties and others are charitable institutions where cases are received on the payment of a small maintenance charge. They are altogether certified for the reception of 165 males and 1021 females. Under Section I. of the Inebriates Act, 1898, drunkards who are convicted on indictment of an offence punishable with imprisonment or penal servitude may at the discretion of the court be committed either to a State or to a certified reformatory. To the certified reformatory also may be committed under Section 2 any person who when drunk has been guilty of certain offences (scheduled in the Act) and who also has been convicted three times in the preceding 12 months of drunkenness. To neither reformatory—i.e., State or certified—may the term of committal exceed three years, and under certain conditions the person may be granted a licence to be at large before the committal period has expired. Of the 493 persons who were sentenced during the year under the Inebriates Acts and who were duly admitted (and this number is markedly in excess of that recorded during previous years) 428 were women. The increase in committals is due to the greater number of women dealt with under Section 2 of the Act—for drunkenness and disorder in the streets. There has been a decrease in the number of male admissions owing to a regrettable lack of accommodation. At Brentry alone 80 men were refused admission. This lack of accommodation is partly due to the fact that during the first few years of the working of the Act magistrates made but little use of it so far as men were concerned, and as a consequence one reformatory where men were received had to be closed.

It is not stated in the report why so many more women than men are committed, but one reason for the disproportionate number of female committals may also be due to the reluctance of magistrates to "put away" for a long time the man who, drunkard though he be, is still not always out of work and who when working is the support of his family. Notwithstanding this general increase in the number of admissions fewer persons have proved sufficiently refractory to necessitate a transfer from certified to State reformatories. The conclusion formed from this is that the reformatory officials are becoming more accustomed to the work and are therefore better able to control their inmates with the ordinary means at their command, while it is found that men are less amenable to strict discipline and loss of liberty than women. Reference has been made to the class of cases received at State reformatories. A large number of these persons are mentally defective, although not certifiable under the present lunacy laws, and Dr. Branthwaite points out that "there is no power to detain the most hopelessly defective person after sentence has expired, notwithstanding the recognised condition, certainty of relapse into drunken and disorderly habits, and possible danger to other persons from sudden passionate violence." The community would benefit if the reformatory authorities were to be given power, under proper safeguards, to detain such cases until in the opinion of the medical officers there would be a reasonable hope that further relapses would be improbable.

3. *Inebriate retreats.*—These are 22 licensed inebriate retreats, eight for males, 12 for females, and two for both males and females. Some of these are more or less self-supporting charitable institutions, others are conducted for profit. In these retreats are received habitual drunkards who place themselves under control voluntarily. Some enter under the Act for a period not exceeding two years, others are admitted by private arrangement with the licensees. The number of persons admitted during the year was 595. Of these, 210 were admitted under the Act; the remainder entered without any attestation before a magistrate. Dr. Branthwaite reports that in 68 instances during the year leave of absence from a retreat was obtained for patients, but that in only eight of these was leave granted for ill-health. The remainder obtained leave on account of domestic complications, business exigencies, and as a reward for good conduct. Under Section 19 of the Habitual Drunkards Act, 1879, leave of absence can only be obtained on account of benefit to health. It is, however, a step in the right direction to widen the scope of this section and to enable licensees to obtain leave of absence for patients by making the statutory application to a magistrate in other and reasonable circumstances.

We have already referred to the fact that the report is largely statistical. There are numerous and most useful tables incorporated in, and attached as indices to, the report. To complete the publication we should be glad to see a table giving results of detention and especially to be informed as to the percentage of good results obtained. It is, however, easy to realise that there are great difficulties in the way of obtaining such information.

THE LANCET.

LONDON: SATURDAY, DECEMBER 5, 1908.

The Session of the General Medical Council.

THE Jubilee meeting of the General Medical Council—that is to say, the eighty-eighth session—occurring rather more than 50 years after the foundation of the Council, came to an end on Saturday, Nov. 28th, the members having got through in five days a practical programme and having also touched upon large subjects which will at a later time undoubtedly engage their attention more fully. The economy of time displayed nowadays in the debates of the Council is very praiseworthy. The sessions thereby have become less costly, which means that the pecuniary affairs of the Council are placed upon a much better foundation, while there is also no encouragement given to the making of long speeches which repeat the obvious or to the embarking upon subjects which are not in a sufficiently ripe condition to be discussed by the Council in full conclave. The minutes of the Council are now taken as read, an economy of time which is fully justified by the fact that they are circulated in type, and there is a general desire on the part of everybody to do what has to be done as expeditiously as possible without sacrificing efficiency. The best endeavours of the Council, however, may be defeated because of the wide range of business before it, for there is one direction in which it will always be very difficult to save time. The hearing of the penal cases cannot be arbitrarily curtailed or adjourned from session to session without good ground and the time taken up by the duty of the Council may be very great. It may be remembered that last session one penal case alone occupied the time of the Council for more than three days. It would have been unfair to the practitioner concerned not to have given to the consideration of the case all necessary time, as upon its issue depended the whole professional position of the impeached man, but, on the other hand, no question of public or professional morality or ethics was concerned which in the smallest degree represented the amount of money spent upon the protracted hearing. At one period in the present session it looked as if the same position would occur again as discussion of one of the penal cases occupied a day and a half out of the short session. It was absolutely necessary that the case should be discussed thoroughly, for the whole future of a medical man was at stake, but had there been three such cases in the penal list the session must again have cost so much money as seriously to affect the balance-sheet of the Council. This is a position which must be very apparent to the General Medical Council which would probably much like to remedy it, but we confess that we do not see what can be done. It has a duty which it must perform and it is the essence of that duty that all important evidence should be admitted, regardless of the time occupied thereby.

Two of the debates in the recent session touched upon important medical politics and serve to show that the Council is alive to the material needs of the medical profession, as well as to the necessity of maintaining such a position between medicine and the public by Act of Parliament that the public may not unduly suffer by the ministrations of unqualified or ignorant persons. Quackery can never be put down by law, while the magnificent invasion by modern medicine of many outlying scientific provinces renders it harder and harder for any Act of Parliament to define what is and what is not a procedure that may with expediency be undertaken by other than a medical man. The debates upon the report of the Unqualified Practice Prevention Committee of the Council and upon the Bill recently read in the House of Lords for the Registration of Nurses proved that the members of the Council are aware of the difficulties, and proved them also to be not afraid to state opinions which are at variance with those held by many general practitioners. The report of the Unqualified Practice Prevention Committee contained information as to the provisions existing for the prevention of medical practice by other than legally qualified persons in all those foreign countries where the experience would have obvious bearing on conditions in Great Britain, and in the report is included a supplementary statement by Dr. A. G. BATEMAN, drawn up from the Medical Acts of the different provinces in the Dominion of Canada and of the different States of the United States of America, the whole making an admirable synopsis of the professional status of medicine in the civilised world. Dr. H. W. LANGLEY BROWNE, having submitted this report, moved that the General Medical Council should transmit to the Privy Council a motion stating that the present Medical Acts do not sufficiently enable "persons requiring medical aid to distinguish qualified from unqualified practitioners" (Medical Act, 1858, Preamble) and requesting the Government to take steps for the appointment of a Royal Commission to inquire into the evil effects of unrestricted practice of medicine and surgery by unqualified persons. The motion was agreed to and for our part we sincerely hope that the Government will be able, and at an early date, to appoint the Royal Commission which is sought. We know perfectly well that there will be an outcry against such an action of the Government on the part of those persons who make a livelihood out of quackery, just as we know that other members of the public, often quite disinterested but almost always ignorant of the true aims of medicine, will set up a cry of medical priestcraft; but the sooner the views of serious and responsible persons upon the evils of unqualified medical practice are placed before the public in an authoritative shape the better it will be for the community. With this action of the General Medical Council we are in full accord and so will all our readers be.

Whether the general practitioners will quite approve the more or less qualified blessing bestowed by the Council upon the Bill for the Registration of Nurses is another matter. Some will say that a Bill for the Registration of Nurses implies the establishment of an inferior order of practitioners having no qualification to practise, and that

for the Council to agree to such a measure while asking for a Royal Commission to inquire into the evils of unqualified practice is somewhat inconsistent. This section of the medical profession will find it inexpedient that the General Medical Council should be represented on any nursing council to be created by a new Act of Parliament, and the attitude has a logical reason. Others, and we find among them Dr. LANGLEY BROWNE, Dr. L. S. MCMANUS, and Dr. H. A. LATIMER, the three English Direct Representatives on the Council, believe that the medical profession is greatly in favour of the registration of nurses and that a proper registration of nurses can only be for the good of the public by insuring to the public efficient aid to medical services. We are not ourselves so sure that the latter is the view taken by the medical profession at large; at any rate, we have at different times received many communications of an opposite sense, but we think that none the less the question has reached a stage at which it can hardly be further debated. The recent creation of a Central Midwives Board made it almost certain that a similar scheme for the control of general nursing would come into existence, while the General Medical Council has already passed a resolution recommending the registration of nurses. For ourselves we should have liked to hear this very important question debated at greater length by the General Medical Council, but the Council, as the President reminded the members, cannot very well go against its former resolution, while the only argument that ought to be effective to induce them to do so would be the knowledge that the feeling of the medical profession had changed—and this they learn from the evidence of the Direct Representatives is not the case.

The Health of the Royal Navy during 1907.

THE report on the health of the Royal Navy for the year 1907 has been published. It is satisfactory to record that a diminished ratio of sickness is reported, probably due to the greater concentration of the total force in home and Atlantic waters. The Channel Fleet shows the lowest and the Irregular List the highest sick list, the latter perhaps due to the fact that under this heading are included the crews of men-of-war proceeding to foreign stations, many of whom, especially young stokers, succumb temporarily to their first experiences of the heat of the tropics. In comparison with the last five years the China station showed an increase of disease, especially as regards venereal diseases, the entries and invaliding ratios of which indicated marked and unsatisfactory additions. As regards malarial fevers it is of importance to note that "the river gunboats all report favourably on the value of mosquito nets and of the prophylactic value of quinine when used systematically." The Australian station "again shows the highest case ratio" as regards venereal diseases. From the North American and West Indian station there are reported seven cases of yellow fever with three deaths. This is the first time any cases of this disease have been reported since 1904; they all occurred on board H.M.S. *Indefatigable* at Barbadoes. The incubation period varied from one to 12 days. The disease was contracted on shore in every instance, each individual attacked had slept in the same locality, and all had been freely bitten by mosquitoes.

From the Mediterranean station there are returned only 14 cases of Malta fever and the origin of every other case reported was traced to the Mediterranean. The following figures may be quoted as a triumph of scientific medicine: "In comparison with the average ratios for the last five years, the case ratio has fallen from 3·47 per 1000 to 0·26, the final invaliding from 0·13 to 0·04 per 1000, and the death from 0·06 to 0·01." From the East Indian station is returned the largest number of cases of malarial fever, Bombay being the commonest place of origin. The returns from the "Home station" under the heading "Diseases of Other Organs of Special Sense" are noteworthy. There are 291 cases noted, with 72 invalidings and one death. Diseases of the ear were responsible for the great majority of the invaliding cases and for the one fatal case. The report informs the public that a careful investigation had been made into all cases under treatment for ear trouble and that in the vast majority of these no connexion with gun-firing could be traced. It is, however, fairly well established that although actual disability rarely follows even continuous exposure to gun-fire, yet a certain degree of deafness and decrease in acuteness of hearing, especially in a crowd, is very liable to be noticed amongst officers and men who have been exposed to the shock of gun-fire, and this liability becomes greater the more continuous the exposure. "It is," concludes the report, "very necessary, therefore, that all officers and men exposed to gun-fire should as far as is practicable take advantage of one of the methods of ear protection now in use." As a review of the health of the whole fleet the report makes cheerful reading but the condition in one respect is, we consider, very unsatisfactory. Venereal disease is still far too common. The total number of cases recorded in 1907 was 13,522. The total number of days loss of service was 329,936, while the average daily number of men ineffective from these diseases was 903·9. These figures should be sufficient to convince the most sceptical of the grave deterioration of the national health implied and to remind them that the mischief may reach generations yet unborn.

We much regret to see the brevity of the appendix to the report, which consists of the laboratory report of the Royal Naval Hospital, Malta, by Staff-Surgeon H. C. WHITESIDE, R.N., and some "analyses of air in double bottoms of iron ships" by Staff-Surgeon OSWALD REES, R.N. Both these are valuable contributions to exact knowledge but when we remember the immense field of work of the medical officers attached to the Royal Navy and Marines "Per mare, per terram" and their opportunities for observing the types and forms of disease amongst all nations of the earth, plus the effects of geographical position, climate, and epidemic and endemic influences in determining and modifying their characters, there can be obviously no want of material for observation and research. As we recently indicated, we wish to look on the medical officers of the navy and army as a body of highly trained organised observers; dealing to such an extent as they must with the manhood of the nation, from their entry as recruits

to advanced middle age, their fingers are literally on the pulse of the public health and their collective investigations should go far to solve some of the most difficult problems of our time. Medical statistics, however accurate the numerical quantities, require elucidation and intelligent comment. In the tables comparing the sickness amongst boys and youths in H.M.S. *Impregnable* and Shotley establishments during the year 1907 we are impressed with the difference in the ratio per 1000 of strength of pneumonia (*Impregnable* 28·36, and Shotley 20·53), of rheumatic fever (*Impregnable* 55·31, and Shotley 38·51), and of diseases of the digestive system (*Impregnable* 211·34, and Shotley 377·40). We should have welcomed from the medical officers in charge any suggestions as to the cause of such divergent ratios which might have confirmed or added to our knowledge as regards the etiology of these diseases and suggested aids to a rational prophylaxis. Again, we have no explanation of the very different ratios of disease at the great naval depots—

at Plymouth	...	21·91 per 1000 of force sick daily.
at Portsmouth	...	31·04 per 1000 ,, ,, ,,
at Chatham	...	64·07 per 1000 ,, ,, ,,
at Plymouth	...	34·72 per 1000 of force invalided.
at Chatham	...	44·34 per 1000 ,, ,,
at Portsmouth	...	59·94 per 1000 ,, ,,

We hope that motives of economy have not severely limited the information in regard to the health of the navy for the year 1907. These reports are most valuable, not only as concerns the medical archives of the services, but for the world-wide information and instruction of physicians and hygienists, both in their practical duties and as permanent records of the geographical distribution and varying types of disease.

Barber-Surgeons.

ON the 15th inst. the Company of Barbers will celebrate the six-hundredth anniversary of the first recorded appointment of a master of their company. There can be no doubt that the Company had existed for many years before 1308 but in that year it is recorded in the Archives of the Guildhall that "RICHARD LE BARBOUR, dwelling opposite to the Church of Allhallows the Less, was chosen and presented by the barbers of London on Tuesday, next after the feast of Saint LUCY the Virgin, in the second year of the reign of KING EDWARD, son of KING EDWARD before Sir NICHOLAS DE FARNDON, then Mayor of London, JOHN DE WENGRAVE, and other aldermen, to have supervision over the trade of the barbers." It may be mentioned that the feast of Saint LUCY is the 13th of December. The close connexion existing for many years between the surgeon and the barbers and the fact that the present Master of the Worshipful Company of Barbers is Sir JOHN TWEEDY, who was recently President of the Royal College of Surgeons of England, require us to notice this interesting anniversary.

The practice of surgery has arisen in different ways in different times. There can be little doubt that the treatment of wounds received in war first gave rise to a form of surgery. Indeed in the most primitive races now existing, races which are really in the Stone Age, the treatment of wounds has often reached a high state of excellence. Even up to the middle of the fifteenth century little is known of the practice and profession of surgery in England, but there are grounds for believing that they did not differ to any great extent from what obtained generally in France and in Northern Italy. In the fourteenth century England was still connected with France politically, for it possessed the Duchy of Aquitaine. English students were received into the schools of France, and they constituted one of the four scholastic "nations" admitted within the pale of the University of Paris. Many Englishmen studied medicine in Paris and at Montpellier, and English medicine and surgery in the thirteenth and fourteenth centuries were in the main a reflexion of French medicine and surgery, though the organisation of the profession in England was apparently more imperfect but more independent than in France. The facilities for surgical education and training were so few in this country that the earliest known English writers on medicine and surgery all studied in the French schools. GILBERTUS ANGLICUS, who flourished about the year 1200 and wrote "Compendium Medicinæ," the first known English work on medicine, studied at Montpellier. Rather more than a century later JOHN of GADDESDEN, who is mentioned in CHAUCER'S "Doctor of Phisik" and who was the author of "Rosa Anglica," studied medicine at Montpellier under GORDON and surgery in Paris under HENRY of MONDEVILLE. JOHN ARDERNE, a younger contemporary of GADDESDEN and the author of a small treatise "De Fistulis," also studied and probably practised in France. None of these writers, however, exhibited much originality; for the most part they were mere copyists: "*unus non dicit nisi quod alter.*"

All through the Middle Ages medicine and surgery in the West of Europe suffered in the general decline of learning and civilisation which supervened upon the break-up of the Western empire towards the end of the fifth century. The decadence of surgery was accelerated two centuries later by the destruction of the School of Alexandria, by the barbarian invasions of Western Europe, and by the rise and spread of the Mohammedan power. The tradition of Greek science and medicine passed for many centuries into the hands of the Arabians. Though they cultivated medicine with some success they neglected surgery. The Quran forbade the dissection of the human body and human anatomy was therefore almost unknown, so that operative surgery fell into disuse, and external applications, caustics, and cauteries took their place. Towards the end of the eleventh century, however, a brilliant but transient revival of surgery took place in the south of Spain under the influence of ALBUCASIS of Cordova. He wrote a treatise on medicine which contained a chapter on surgery. In this he comments on the timidity and incompetence of the surgeons of his day, and he mentions several instances of disastrous operations performed by surgeons unacquainted with anatomy. The writings of ALBUCASIS were translated into Latin and by the end of the twelfth century they were introduced into Italy, where remnants of learning still lingered. The medical school of Salerno had been famous from the ninth century and in the twelfth century other medical schools arose at Bologna, Naples, and other Italian towns under ROGER of Parma, HUGH

of Lucca, BRUNUS of Calabria, WILLIAM of Salicet, and his eminent pupil LANFRANC of Milan. The new movement spread to France, its chief centres being established at Montpellier about the beginning of the thirteenth century and in Paris a little later. Towards the end of the thirteenth century LANFRANC was exiled from Milan; he stayed for a time at Lyons, where he wrote his "Chirurgia Parva," and thence he went to Paris where he was invited by the Faculty of Medicine to give a course of lectures on surgery, and the outcome of these lectures was his "Chirurgia Magnæ" which was completed in 1296. LANFRANC'S influence was personal and fleeting, though his work was carried on for a few years by HENRY of MONDEVILLE, under whom JOHN of GADDESDEN studied. After GUY DE CHAULIAC, who flourished about 1340, surgery suffered in France a fresh eclipse, this becoming almost total when the ecclesiastical authorities of Paris in 1350 forbade the members of the University to practise surgery which, as a mere handicraft, was despised by the cleric physicians. In England, after JOHN ARDERNE, there was no surgeon of great repute for over 200 years.

Throughout the Middle Ages the whole character of thought was ecclesiastical; nearly all the teaching was in the hands of the monks and there was scarcely any learning outside the monasteries. The care of the sick was one of the duties of the monks and from the eighth to the fourteenth century the practice of medicine fell into the hands of the monastic orders. So eagerly did some of the monks pursue the study and practice of medicine that they neglected their religious duties and the study of theology. They left their monasteries in order to attend lectures on medicine and to seek for patients. To stop the evils and scandals to which these absences eventually gave rise many decrees were promulgated by the several Councils of the Church and by the Pope in the twelfth century forbidding monks to practise medicine outside their monasteries. The higher clergy were forbidden to engage in any part of the art of medicine, but the lower clergy were allowed to practise medicine; no surgical operations, however, were permitted to them. The "regular clergy" did abstain, as a rule, from practising surgery, but they were often present at the operations performed by their assistants, directing what should be done. Universities were founded where medicine was taught and practised, but gradually surgery became divorced from medicine and was abandoned to laymen, a few of whom were fairly educated in surgery for the time. Some of these were probably the scanty representatives of the Græco-Roman schools but the greater number of those who performed surgical operations in those days were barbers. Most of these acquired their knowledge not by attendance at professional lectures but by tradition and practice, as indeed was the case with many medical practitioners in this country less than a century ago.

As the barbers grew in knowledge and skill they gradually secured official recognition. A corporation of barbers existed at Montpellier in 1252. In Paris as early as 1301 they had taken the title of "barber-surgeons" and were recognised by the Masters of Surgery who a few years earlier had formed themselves into a fraternity under the invocation of ST. COSMAS and ST. DAMIAN, the patron saints of surgery. The barbers of London were certainly a company at the beginning of the fourteenth century, for, as we have already mentioned, in 1308 a Master was appointed, and even then we find that there were two classes of the members of the company, the barbers proper and those "exercising the faculty of surgery."

The claims of barbers to practise surgery were everywhere countenanced by the cleric physicians, especially in Paris where the latter maintained a hostile attitude towards the regular surgeons. By the end of the thirteenth century the barbers had so extended their domain that they performed most of the ordinary surgical operations, except those for stone, cataract, and hernia, which were left in the hands of specialists, many of whom were itinerant. Under the patronage and protection of the physicians, the barbers continued to rise in status and importance and soon obtained almost a monopoly of surgical practice; and at Montpellier and at Paris the physicians both arranged for lectures on surgery and anatomy for the barbers. By educating the barbers the physicians enabled them to triumph over the regular surgeons, both in numbers and in the extent of their practice. In 1348 the Chancellor of the University of Oxford incorporated the barber-surgeons of that city and they enjoyed the privileges of the University of Oxford. In 1505 the surgeons and barbers of Edinburgh presented a petition to the magistrates and town council that their society might be recognised as one of the guilds with exclusive privilege of exercising their craft. This event was celebrated three years ago as the fourth centenary of the Royal College of Surgeons of Edinburgh. In 1446 HENRY VI. established a Guild of Barbers in Dublin and in 1572 ELIZABETH granted a charter, confirming a much older one, to the barber-surgeons of Dublin, uniting the barber-surgeons and the surgeons.

In London, as at Montpellier and Paris, there were three classes of medical practitioners—the cleric physicians, the lay surgeons, and the barbers practising surgery. Between the surgeons and the barbers there was for many years a keen rivalry and jealousy, and not seldom displays of ill-feeling. Each tried in turn to obtain supremacy over the other. In 1369 the Fraternity of Surgeons obtained from the mayor and aldermen of London an ordinance investing them with the power of presenting the defaults of unskilful surgeons, but seven years later the barbers complained to the court against unskilled practitioners in surgery and obtained an ordinance that two Masters should be appointed annually to direct and to rule the craft, to inspect instruments, and to see that none should be admitted to the franchise of the City without attestation of their skill by examination. In 1390, however, four Masters of the Surgeons' Guild obtained authority to present defaults among persons practising surgery. But in 1410 the barbers obtained from the Court of Aldermen confirmation of the privileges granted in 1376, with the significant addition that they should be enjoyed "without the scrutiny of any person or persons of any other craft or trade whatsoever." In 1423 the surgeons attempted to unite with the physicians to form a commonalty of physicians and surgeons, but the attempt failed, and in 1424 the surgical privileges of the barbers were confirmed. In 1462 the barbers received a charter of incorporation from EDWARD the FOURTH in the first year of his reign This charter, from which the Royal College of Surgeons

of England, as recited in its charter of 1800, dates its constitutional history, was granted to the Freemen of the Mystery of Barbers of the City of London practising surgery. Provision was made for the appointment of two Masters annually to inspect the instruments of those practising surgery, and no person was allowed to practise surgery in London unless first approved by the Masters of the Company. It is interesting to note that the Senior Warden of the Company when this charter was granted was WILLIAM HOBBES, sergeant-surgeon to the KING. The Guild of Surgeons had maintained its separate existence, but in 1493 it entered into an alliance with the Barbers' Company and eventually in 1540 the two companies were united by Act of Parliament. Four Masters were to be appointed annually, two to be surgeons and two to be barbers; barbers were forbidden to perform any surgical operations, except the drawing of teeth, and surgeons were not to exercise the craft of barbery and shaving. THOMAS VICARY, the sergeant-surgeon to HENRY VIII., and author of a well-known book on anatomy, and who had already been Master of the Barbers Company, was elected the first Master of the United Company. The union thus effected lasted for more than 200 years. At first the privileges conferred on the Company excited some opposition, for an Act was passed allowing unlicensed persons to treat outward sores and swellings with herbs and ointments. In 1684 a petition for the dissolution of the united Company was presented to the KING but no further steps were taken. In 1744 the attempt was renewed and a petition was presented to Parliament for the solution of the union; and in the next year an Act was passed establishing two separate companies. The barbers were allowed to retain the whole of the corporate property, real and personal, with the exception of the Arris bequest and Gale's annuity for anatomy lectures, founded in 1646 and 1655 respectively, and these trusts are still held by the Royal College of Surgeons.

We have thus traced from the earliest records the connexion existing between the barbers and surgeons of London and in consequence of that association all Fellows and Members of the Royal College of Surgeons of England can rejoice with the members of the Barbers' Company on the occasion of the 600th anniversary of the first record of the existence of that body. The happy association by which, as we have pointed out, the present Master of the Barbers' Company is Sir JOHN TWEEDY, a distinguished and learned surgeon, and very recently President of the Royal College of Surgeons, is yet another reason for the interest of surgeons in this anniversary.

Annotations.

"Ne quid nimis."

THE METROPOLITAN HOSPITAL SUNDAY FUND.

A MEETING of the council of the Metropolitan Hospital Sunday Fund was held at the Mansion House on Nov. 30th under the presidency of the Lord Mayor, Sir George Wyatt Truscott. The absence of Dr. James Grey Glover was deeply felt by all present, for he was one of the most conscientious workers for the Fund from its inception in 1872. In addition to the death of Dr. Glover the report of the council referred to the loss which the Fund had sustained during the year by the deaths of Canon Fleming, Sir George B. Bruce, and Mr. C. E. Layton. From a financial point of view the statement of the council was satisfactory, though no stronger word can be used. The total collection for the year was £80,181. The collections in the various places of worship resulted in a sum of £40,000, being £2547 less than in 1907. The council recorded its opinion that in the present state of hospital finances extensions and additions should be discouraged by the Fund except in cases where the hospital could show that it had the means to provide and to maintain them. The Archdeacon of London moved the following recommendation which the general purposes committee made at its meeting on Oct. 7th last:—

That the Lord Mayor for the time being continue to hold the office of President and treasurer of the Fund, and that a deputy-chairman be appointed, such office to be annual, like those of the chairman of the committees, the present Lord Mayor, Sir John C. Bell, Bart., being asked to become the first holder of the office.

He pointed out that although the Lord Mayor was actually the head of the Fund, he had so many engagements that it was impossible for him to attend every meeting of the Fund. Therefore it was thought desirable that a deputy-chairman should be appointed. This recommendation having been duly seconded and adopted it was agreed that the annual meeting of constituents should be held on Dec. 16th next, and that June 13th, 1909, should be fixed for the next Hospital Sunday. It was also stated that the Fund would receive altogether between £600,000 and £700,000 from the estate of the late Mr. George Herring.

WEST SUSSEX AND THE SALE OF FOOD AND DRUGS ACT.

IT is a matter for congratulation to notice that the increased attention which is being paid to the necessity of a purer milk-supply is having its effect at least in West Sussex. Out of 40 samples of milk taken in the western half of the county during the past quarter only one was adulterated, and at a meeting of the county council on Nov. 27th that body was congratulated upon the result of the labours of the Sale of Food and Drugs Act committee in applying the Act more strictly and with such excellent effect. At a former meeting of the council the sum of money allotted for the purposes of the committee was increased with the object of taking more samples of foodstuffs generally than heretofore. Thus 40 samples of milk were taken, and in view of the controversy over the Board of Agriculture's milk standard the report of Mr. Otto Hehner, the West Sussex county council's analyst, is worthy of record. It will be remembered that a year ago an annotation appeared in THE LANCET under the heading of "Justices and Adulteration," in which attention was called to the fact that the Sale of Food and Drugs Act committee of the council avowed its intention to discontinue its labours if adequate penalties were not imposed in cases where proceedings were taken for adulteration. This action of the committee has been followed with the desired result, and the chairman at the recent meeting of the council said that a great deal of necessary help had been afforded to the council by the action of certain benches of magistrates who had taken up the subject seriously and inflicted such penalties on offenders as had deterred a great number of people from watering the milk which they sold to the poor. Particular complaint was made a year ago as to the decision of certain justices in cases of adulterated cocoa, and the Sale of Food and Drugs Act committee has been continuing its attentions as regards loose cocoa. Three samples, the analyst found, contained nothing but the powder of the cocoa-bean, partly de-fatted. Two samples were mixtures of cocoa, sago starch, and sugar, the

cocoa itself amounting to less than one-third of the weight of the article; but, Mr. Hehner says, "as one of these mixtures had, however, been sold as a mixture, it complied with the requirements of the law." The county council decided, however, to suggest to the County Councils' Association that it should consider the advisability of urging upon the Government the necessity for an amendment of the law permitting the use of a label barely of the size of a sixpenny-piece used in the sale of loose cocoa. But does such a small label comply with the requirements of the law, as Mr. Hehner says? Clause 8 of the Sale of Food and Drugs Act, 1875, says that the label must be "distinctly and legibly written or printed on ..... to the effect that the same is mixed." It is difficult to see how the notice can be distinct or legible on such a small space. However, good may arise from attention being called to the matter.

HEALTH AND SANITATION IN MAURITIUS.

REPORTING on the Blue Book of Mauritius for the year 1907, Sir J. Graham Bower, K.C.M.G., R.N. (retired), Colonial Secretary, puts the present estimated total population at 383,408, there having been an increase both in the Indian and general population. The public health was much better than in 1906, the death-rate decreasing from 40·0 per 1000 in 1906 to 34·7 in 1907, whilst the birth-rate increased from 33·5 to 37·7. An unsatisfactory feature is to be found in the high infantile mortality, and a very high proportion of stillbirths—8·5 per cent.—has at the same time to be recorded. Mauritius lies close to the edge of the southern tropic, and has the climate which is to be expected in such a latitude. It is also in the direct line of the track of the cyclones of the Southern Indian Ocean. But the climate at the lower levels, though unfavourable to man, is very favourable to vegetation; even a hurricane may prove to be a blessing in disguise, and the heat and rain of the summer months, though they fill the hospitals, push the growth of the sugar cane and thus help also to fill the pockets of the sugar planters. The high levels, though damp owing to the condensation of the trade winds, are not unhealthy; and it is poverty rather than climate which should bear the responsibility of the sickness and mortality amongst the population in the higher levels. There are in the colony 14 hospitals and asylums, including those attached to the jails. The admissions during the year numbered 23,355, an increase of 2984 over the previous year's figures, though the case-mortality—5·34 per cent.—was lower than that of 1906 by 0·51. Malarial fever accounted for 4272 admissions, against 3674 in 1906. Dysentery was answerable for 1286 admissions, as against 794 in the previous year. This higher incidence of dysentery was attributable principally to the prolonged drought which was experienced, notably from July to November, and the consequent great stagnation and pollution of the streams and rivers from which a great proportion of the population derive their water-supply. Influenza gave 1264 admissions, against 1768 in 1906, when the disease prevailed epidemically. 1114 admissions were registered for tuberculosis—an increase of 142. Only one case of pertussis came under notice, the epidemic of that complaint having come to an end in 1906. The number of cases of enteric fever notified in accordance with the Contagious Diseases Ordinance was 145, showing an increase of 64. This increase, however, was more apparent than real, being explained by the greater facility now afforded for the differentiation of the existing fevers by the creation of the bacteriological laboratory. Diphtheria was answerable for 60 notifications, against 33 in the previous year. Here again the increase was probably only apparent and indicated the influence of the bacteriological laboratory in determining the final diagnosis in doubtful cases. An epidemic of measles broke out in August. In spite of early precautionary measures the infection spread rapidly, 347 cases having been notified between August and December. Beri-beri, which is not endemic in the island, broke out simultaneously in three out of the four prisons of the colony in February. The source of the infection was traced to the use of a decorticated unstoved white rice from the East, which had been supplied to the prisons for some time. The epidemic at once subsided after the change of diet—from the rice in question to bread at first and to ordinary Indian rice later—had been prescribed and carried into effect. The yearly incidence of plague since 1898 has been as follows:—1899, 1416 cases, 1117 deaths, or 78·9 per cent.; 1900, 796 cases, 593 deaths, or 74·5; 1901, 1093 cases, 805 deaths, or 73·6; 1902, 506 cases, 386 deaths, or 76·3; 1903, 1395 cases, 1035 deaths, or 74·2; 1904, 568 cases, 449 deaths, or 79·0; 1905, 308 cases, 251 deaths, or 81·5; 1906, 434 cases, 344 deaths, or 79·3; and 1907, 224 cases, 178 deaths, or 79·5. It will probably be of interest to compare the alternations of malaria with those of plague; it will be noticed that both favour alternate years:—Malaria: number of cases, 1899, 4152; 1900, 2848; 1901, 4182; 1902, 3360; 1903, 4788; 1904, 3039; 1905, 5123; 1906, 3674; and 1907, 4272. The campaign against rats was carried on with increased vigour during the year under report, 125,558 of these vermin having been destroyed by the rat-catchers employed by the department. This figure compares very favourably with that for 1906, which was only 105,567. Surra continued throughout the year, though with less virulence. Its existence was detected, however, in the southern part of Black River, which had at first escaped contamination. A bacteriological laboratory was established in temporary buildings at Moka pending the construction of a more permanent home at Réduit. Much good research work has been done, but it is too early yet to speak of definite results. Nevertheless, the work in regard to surra is most hopeful. Good work has been done also by assisting the medical profession in cases of doubtful diagnosis.

ST. BARTHOLOMEW THE GREAT.

A MEETING was held on Nov. 27th in the Great Hall of St. Bartholomew's Hospital to support the effort which is now on foot to preserve the ancient gateway of St. Bartholomew the Great. The gate dates from the thirteenth century and originally gave entrance to the church. It is now mixed up with various secular buildings and the whole mass forms part of a property the trustees of which are desirous of modernising by pulling down the old houses. If this is carried into effect the gate would be left as little more than a dilapidated ruin. A letter was read by Sir Aston Webb, the architect of the church, in which it was stated that the trustees offered to sell the freehold of such houses and land as affected the gateway for £1875, the offer to be open to Jan. 1st, 1909. Some £200 more would be required for putting the premises into a habitable condition. Dr. Norman Moore moved:

> That in the opinion of this meeting it is desirable for the preservation of Smithfield Arch that the property over it and six feet to the side of it be secured, and that this meeting pledges itself to use its best endeavours to raise the sum of £1875 and a further £200 to put the house in a habitable state of repair.

Sir F. D. Dixon-Hartland, M.P., Mr. St. John Hope, and Canon Benham spoke in support of the motion which was unanimously adopted. It was announced that promises of support had been received amounting to £600. It is much to be hoped that the needful £1400 will be forthcoming. The city authorities will we are sure not be backward in preserving one of the few remnants of mediæval London which

are still extant, and some of the great London landlords who derived much of their wealth from what was originally church property might also be approached.

THE KEEPING PROPERTIES OF JAM.

EVERY housewife who makes jam knows that the keeping powers of the several batches made vary. Some samples will go mouldy in a short time, while others will keep in good condition almost indefinitely. The differences observed may be due to some jams being more concentrated than others, as, of course, it is only a concentrated solution of sugar which is antiseptic. It seems certain, also, that cane sugar is a much more satisfactory preservative than glucose, and the argument of jam-makers that glucose is necessary in order to keep the jam from crystallising is put out of court by the fact that if the jam is well made the acids of the fruit should change enough cane sugar into invert sugar to insure against sugar crystals separating. This involves, however, long boiling and nowadays jams, we are told, must be made as cheaply as possible. Hence the superiority of the home-made jam which contains a larger proportion of digestible sugar (and parenthetically, it may be added, more fruit too) than as a rule does the commercially prepared article. It would be a somewhat curious fact if it proved that, after all, jam owed its keeping powers not entirely to sugar but in part to what may be regarded as an artificial preservative—namely, formaldehyde. It has been agreed that formaldehyde is an objectionable preservative for foods on account of its toughening effect upon foods in general and upon protein in particular. And yet it would appear that formaldehyde is readily formed in small quantities by merely boiling solutions of cane sugar, the amount produced depending possibly on the duration of the boiling. According to this, it would not be surprising to find formaldehyde present in many jams as a perfectly unintentional, or even normal, constituent. Its presence, indeed, may be essential to the keeping powers of the jam. The subject deserves further investigation, since analysts may be put off their guard and be the means of instituting proceedings for fraud where no fraud exists. Moreover, there is no evidence that the health of the jam-eating public suffers at all in spite of the small quantities of formaldehyde present in this favourite and nutritious article of diet.

THE MANCHESTER AND SALFORD SANITARY ASSOCIATION.

THIS association is always on the watch lest anything should threaten evil to the health of the community and other localities must envy Manchester the possession of such an organisation. Some time ago an estate called Platt Fields, in Rusholme, was bought by the corporation, always to be used as an open space. Since the purchase, however, various exhibitions, such as an agricultural show, taking up a large space, and an electrical exhibition, have been held on the ground. For such purposes it is well adapted but the committee of the association, at a meeting presided over by Dr. A. Emrys Jones, adopted a motion protesting emphatically against its permanent use for any other purpose than that authorised by the town's meeting. Mr. William Thomson, who has for years devoted much attention to the prevention of lamp accidents, presented an encouraging report (which will be found in THE LANCET of Nov. 28th, p. 1618) showing that a marked diminution has taken place in the number of alleged lamp explosions since the association first entered on the investigation of the subject. The reduced number of explosions indicates great improvement in the construction of lamps, but Mr. Thomson thinks that they would be still further reduced if the length of the wick tube were increased. At the same meeting the honorary secretary, Dr. George Ashton, proposed an important motion, which was seconded by Mr. N. Kolp and carried, "urging on the authorities that the time has come when the youth of the country should be required to submit to systematic physical training up to the age of 22." Service in the Territorial Army was recommended as one means of effecting the wished-for improvement in the national physique. Quite apart from any military considerations, though they may prove to be most important, the improvement that might be hoped for in the condition as to health and general bearing of a large proportion of our youths and young men is earnestly to be sought for, as it is urgently needed. If the average be taken of the crowds of workers coming out from the mills and works of our busy towns, or of the loafers slouching at the street corners, it is obvious that there is more decadence than progression shown in their physical condition. It is permissible also to hope that the discipline and the subtle effect of acting in concert with others may do something to supplement the teaching in our elementary schools, which seems to impart a smattering of sundry "isms" but to leave courtesy, or even decent manners, as matters not worth considering in these progressive days. If these things are not beyond hoping for, what an improvement may some day be found in the character of our citizens. But will the authorities be moved to action?

DISPLACEMENT OF THE LARYNX AS A SIGN OF ANEURYSM OF THE ARCH OF THE AORTA.

AT the meeting of the Académie de Médecine of Paris on Nov. 10th, M. E. Boinet reported the following remarkable case. A night watchman, aged 59 years, was attacked in April, 1904, by a band of ruffians, struck and kicked on the upper part of the chest, gagged, bound, and thrown into water from which he was rescued almost dead. An attack of influenza complicated by broncho-pneumonia followed. He slowly recovered and some weeks later during a violent attack of coughing he felt an acute pain at the internal part of the second right intercostal space and a pulsatile tumour appeared at this point. Some months later he went to the Hotel-Dieu with all the signs of an aneurysm of the ascending part of the arch of the aorta projecting in the second right intercostal space, covered by thin, tense skin threatening to rupture. It was accompanied by expansile pulsation and a systolic murmur. There was no history of syphilis. Under rest in bed, milk diet, large doses of potassium iodide, and subcutaneous injections of gelatin considerable improvement took place and he resumed work. In June, 1905, he returned to hospital with considerable distension of the veins of the neck, particularly of the right external jugular vein which when emptied by drawing the finger upwards along it and continuing the pressure on its upper end showed regurgitant waves of blood. The radial pulses were regular, equal, and synchronous. The heart was slightly hypertrophied and a mitral regurgitant murmur was heard. The same treatment was followed and he again resumed work. In May, 1906, his general condition was good but the aneurysm had made progress. It had pushed forward the first two ribs and upper part of the sternum, caused subluxation of the clavicle, and projected in the right supraclavicular and suprasternal fossæ. The aneurysm further progressed and pressed directly on the larynx, displacing it downwards and to the left. In March, 1907, there was marked dyspnœa, accompanied by stridor and spasms of the tongue, larynx, and œsophagus. Symptoms of compression of the recurrent laryngeal nerve followed; the voice was lost for two or three hours and then after some attacks of coughing the expectoration of mucus returned. Later the voice became stifled, hoarse, and bitonal. The laryngoscope showed complete paralysis of the left vocal cord.

Swallowing of solids became difficult. Radioscopy showed an aneurysm of the ascending part of the arch of the aorta of the size of the fœtal head. The aneurysm progressed until it extended three or four centimetres above the right clavicle and inspiration was attended by sub-costal and epigastric retraction. The displacement of the larynx increased; not only was it dragged downwards and backwards by traction of the trachea which was pushed backwards and to the left by the aneurysm but it was directly pushed to the left and backwards by the supraclavicular and suprasternal part of the sac which was in direct relation with the right side of the thyroid and cricoid cartilages. A movement of lateral torsion of the larynx was also produced. The upper part of the larynx projected forwards while the cricoid cartilage and upper part of the trachea, pushed backwards and to the left, lay deep in the neck and were no longer accessible to operation, which, however, the compression of the lower part of the trachea would have rendered useless. The dyspnœa increased and the patient died from asphyxia on July 8th, 1907. The necropsy showed an aneurysm of the size of an infant's head involving the whole of the ascending and transverse portions of the arch of the aorta. It compressed the superior vena cava, the innominate veins, and both pneumogastric and recurrent laryngeal nerves. The trachea was flattened and bent into a curve with concavity to the right. As the lower end of the trachea was fixed beneath the arch of the aorta by the left bronchus the pressure exercised by the aneurysm dragged its upper end with the larynx downwards, backwards, and to the left and at the same time lateral torsion of the larynx to the left was produced. The latter was all the greater as the upper part of the aneurysm pressed the right lateral surface of the larynx to the left and backwards. This condition of lowering, immobilisation, and torsion of the larynx M. Boinet describes as a new sign of aneurysm of the arch of the aorta (*"signe du larynx"*). The regurgitant waves in the right external jugular vein were explained by the obstruction of the superior cava and innominate veins, which distended the jugular veins and rendered their valves insufficient. Compression of both recurrent laryngeal nerves is rare in aortic aneurysm. M. Boinet thinks that the attack of influenza, the only infectious disease revealed by the history, played an important part in the development of the aneurysm.

THE SIXTEENTH INTERNATIONAL CONGRESS OF MEDICINE.

A MEETING of the National Committee for Great Britain and Ireland of the Sixteenth International Congress of Medicine was held at the rooms of the Medical Society of London on Nov. 25th to consider the necessary organisation for Budapest at the Congress of 1909 (August 29th to Sept. 4th). There were present, among others, Dr. F. W. Pavy (in the chair), Sir William S. Church, Sir Dyce Duckworth, Sir Thornley Stoker, Sir Felix Semon, Dr. D. Ferrier, Mr. Walter H. H. Jessop, Dr. F. W. Hewitt, Mr. James Berry, Mr. Hunter F. Tod, and the honorary secretaries (Dr. Clive Riviere and Mr. D'Arcy Power). After the minutes of the last meeting had been read and confirmed and letters of apology from absent members had been received, a list of new members of the National Committee for Great Britain and Ireland was read to the meeting. Then the honorary secretaries announced that all the hotel and lodging arrangements at Budapest had been placed by the executive committee of the Congress in the hands of the International Sleeping Car Company. The London offices of the company are situated in Cockspur-street, Charing Cross, and members intending to visit Budapest next year were desired to make early application for rooms to the manager of the London branch. It was also announced that the South Eastern and Chatham and Dover Railway Companies were considering facilities for travelling by through trains to the Congress. The amount of reduction in the fare which would be conceded had not yet been made known but details would be published in due course. A communication from the executive committee at Budapest was then considered in reference to the formation of a permanent international commission to secure the continuity of policy in the international congresses. The general principle was approved and the draft rules were read and discussed. Some amendments were agreed to and it was decided that the Commission should consist of the presidents and general secretaries of the previous and forthcoming congresses and of a delegate from each national committee, the total number of members not to exceed 50. The Commission would appoint its own bureau, the *personnel* of which would be a president, two vice-presidents, a general secretary, and another secretary who, in the opinion of the British National Committee, should be a permanent and paid official residing at some convenient centre in one of the neutral European countries —e.g., at the Hague, Brussels, or Geneva. A letter from the general secretary was then discussed as to the most convenient intervals between the congresses. The National Committee passed a resolution, after a vote had been taken, recommending that the international medical congresses should be held every four years instead of every three years, as had been the custom heretofore. The meeting ended with a vote of thanks to the Medical Society of London for placing its rooms at the disposal of the National Committee.

URBAN AND RURAL INFANTILE DIARRHŒA.

THAT fatal infantile diarrhœa in summer is essentially an urban disease is very generally recognised, but the striking contrast between the summer rates of infant mortality in urban and rural populations, mainly due to difference in the fatality of diarrhœa, is not sufficiently realised. The recently issued quarterly return of the Registrar-General, relating to the three months ending with September last, affords some means for contrasting the recorded infant and diarrhœa mortality in town and country during the past summer. The mean rate of infant mortality during the third quarter of this year was equal to 145 per 1000 births registered in the 76 largest English towns for which the Registrar-General issues weekly returns; and to 130 per 1000 in 142 other smaller towns having populations ranging between 20,000 and 50,000. In England and Wales, exclusive of these 218 large towns, but including all the urban districts with populations under 20,000, the rate of infant mortality did not exceed 102 per 1000. In the six mainly rural counties of Bedford, Bucks, Herts, Suffolk, Wilts, and Dorset, with an aggregate population exceeding a million and a half, the mean rate of infant mortality last quarter was only 63 per 1000, and ranged from 58 in Berkshire to 66 in Buckinghamshire and in Dorsetshire. Even these low rural rates of infant mortality are somewhat overstated, as the Registrar-General's statistics do not afford the means for calculating the rates of infant mortality in the rural sanitary districts within those counties exclusive of the urban sanitary districts. So long, unfortunately, as the Registrar-General's statistics are based upon Poor-law unions, making up what are called registration counties, and not upon sanitary districts and administrative counties, the Registrar-General's statistics will fail to exert their full influence on sanitary authorities. Without the desirable correction for the urban districts in these six rural counties the mean rate of infant mortality therein was very considerably less than half the mean recorded rate in the 218 towns, having an aggregate population exceeding

21,000,000; while of 1000 children born in these six rural counties only 63 died under the age of one year, the mean proportion in the 218 towns was 142 per 1000. During last summer quarter 11,119 deaths in England and Wales were referred to diarrhœa, of which 8498 occurred in the 218 largest towns, and but 2621 in the remainder of England and Wales, with a population of about 14,000,000, mainly rural, but including all urban districts with populations under 20,000. The annual death-rate from diarrhœa during last quarter in the whole of England and Wales was equal to 1·25 per 1000, against 2·07, the average rate in the ten preceding corresponding summer quarters. The annual death-rate from diarrhœa last quarter was 1·71 per 1000 in the 76 largest towns, ranging from 0·03 and 0·06 in Hastings and Bournemouth, to 4·20 in Hull, 4·28 in Middlesbrough, 4·50 in Burnley, and 6·09 in Rhondda. In the 142 smaller towns the mean annual diarrhœa rate was equal to 1·25 per 1000 and in the remainder of England and Wales the mean rate did not exceed 0·73 per 1000. In order, however, to show more clearly the comparative immunity from summer diarrhœa in rural populations, it should be noted that in the six essentially rural counties enumerated above, although they include several populous urban districts, the mean annual death-rate from diarrhœa during last quarter did not exceed 0·16 per 1000 and was less than one-tenth of the mean rate that prevailed in the 76 largest towns. Striking as is this contrast, however, these figures underestimate the comparative immunity from fatal infantile summer diarrhœa in rural districts, not only because it is at present impossible to exclude from the statistics for rural counties the facts relating to urban districts situated therein, but because it is also impossible to ascertain from the Registrar-General's returns how many of the deaths attributed to diarrhœa in administrative counties and sanitary districts are of infants under one year of age or of children aged under five years. It appears from the Registrar-General's last issued annual report relating to 1906 that in the whole of England and Wales 92·2 per cent. of the deaths attributed to diarrhœa in that year were of children aged under five years and 74·9 per cent. of infants under one year of age; but the proportions of the deaths of young children from diarrhœa are probably much larger in the summer quarter of the year.

CATALYSIS VERSUS VITAL ENERGY.

As is well known, the discovery of a method of synthesising urea was the first step in the destruction of the "vital theory" and it was soon found that many other products of animal metabolism could be built up from inorganic materials without the aid of vital processes. Indeed, the term "organic" chemistry had not long been adopted before it became a misnomer. Many reactions were explained by the assumption of a "vital energy" and the action of enzymes was generally attributed to a vital force rather than a purely chemical change. In this connexion it is of interest to refer to a communication from the Johns Hopkins University by Mr. S. F. Acree on the Catalytic Reactions Induced by Enzymes.[1] His work, supplementing that of Dr. Hudson and other investigators, serves to clear up much of the mystery that hitherto has surrounded the action of enzymes. According to the modern view the addition of an enzyme to a reacting system brings about a catalytic change because the enzyme unites with some constituent, called a "substratum," of the reacting system and forms a new compound which furnishes the same end-products more or less readily than does the substratum. This conception harmonises with the facts connected with enzymic catalysis and renders unnecessary the assumption that an enzyme stores up within itself a vital energy which is given up to the reacting system and, perhaps, after transformation causes an acceleration of the reaction similar to that produced by heat, light, and other physical agents. The new theory of catalysis clears up the mystery of catalytic action and points to the probability that all organic reactions are essentially like the inorganic reactions. The vital energy theory, on the other hand, fails to harmonise with some known facts and there is no corroborative evidence that enzymes store the energy necessary to bring about the reactions which they set up. For example, O'Sullivan and Tompson showed that invertase can catalyse at least 100,000 times its own weight of cane sugar without losing its reactivity to a measurable extent. If it be assumed that the action of the enzyme is due to the possession of a vital energy invertase would be compelled to give off enormous quantities of energy, perhaps as much as radium is capable of producing. While allowing that the question requires to be tested further by experiment Mr. Acree holds that the discoveries of the last few years have removed the doctrine of vital energy beyond the reasonable limits of possibility. He who would revive this creed must first offer new facts.

[1] Journal of the American Chemical Society, November, 1908, pp. 1755–60.

RESUSCITATION OF THE APPARENTLY DROWNED.

EARLY in the present year the chief surgeon of the Metropolitan Police, Mr. Clinton T. Dent, requested the Royal Society of Medicine to make a pronouncement as to the best method now available for the resuscitation of the apparently drowned. The request was occasioned by the fact that the Royal Life Saving Society, the influence of which on matters relating to rescue and resuscitation is coextensive with the British Empire, had adopted the method recently recommended by Professor E. A. Schäfer, while the Royal Humane Society and Metropolitan police continued to employ the method introduced by the late Dr. Silvester. The council of the Royal Society of Medicine, following the custom of the Royal Medical and Chirurgical Society, nominated the following as a committee to report on the matter: Sir William S. Church (President), Dr. F. H. Champneys, Mr. F. Warrington Haward, Dr. Leonard E. Hill, Professor Arthur Keith, Professor E. H. Starling, Dr. Arthur Latham, and Mr. Herbert S. Pendlebury, the two last named acting as honorary secretaries, while Mr. J. Y. W. MacAlister acted as official secretary. The committee, the report of which has just appeared, recommends Professor Schäfer's method as preferable to either that of Marshall Hall or of Silvester for the resuscitation of the apparently drowned. The recommendation is somewhat unexpected when we remember the criticism to which Professor Schäfer's method was subjected when brought before the Royal Medical and Chirurgical Society in December, 1903. The reasons which induced the committee to prefer the Schäfer method are: (1) the prone position favours the escape of water and mucus from the mouth and trachea; (2) it gives a larger exchange of respiratory air; (3) it gives an effectual upward pressure on the diaphragm, thus stimulating the heart; and (4) there is in Schäfer's method less risk of injury to the abdominal viscera or to the ribs. It is sincerely to be hoped that the finding of the last resuscitation committee may have a more abiding value than those of its four predecessors. Certainly more than one of the reasons given for the adoption of the Schäfer method are open to criticism, especially the second; even Professor Schäfer does not claim a superior but only a sufficient respiratory exchange for his method. It is a matter of regret that the records of the Royal Humane Society, kept for nearly 150 years and

giving the results of the application of diverse methods of resuscitation, cannot be made available for study. The committee also found that its inquiry was greatly handicapped by the fact that post-mortem examinations on the drowned are so imperfectly performed and recorded.

THE PROPOSED EASTBOURNE CENSUS.

THE consent of the Local Government Board to the application of the municipal borough of Eastbourne for a census enumeration of the present population of that borough is full of interest for those who have long advocated the urgent desirability of an intermediate enumeration of the population of this country between the decennial censuses. The borough of Eastbourne had in 1891 an enumerated population of 34,969, which had increased to 43,344 at the last census in 1901. Based upon the rate of increase of population during this intercensal period, the Registrar-General estimates the population of the borough at the middle of this year to be 49,789. The Eastbourne municipal authority appears to be anxious to attain the dignity of a county borough, for which a population of 50,000, as determined by a census, is a necessary condition. Hence the local desire for an immediate census instead of awaiting the next national census in 1911. We believe that the consent of the Local Government Board is conditional upon the census being effected by the local superintendent registrar, the local registrars, and necessary enumerators, under the control of the Registrar-General; the whole of the cost of this exceptional census is, moreover, to be borne by the borough council. We shall watch with interest the result of this local census but the experiment is not entirely free from objection. In the first place it seems doubtful whether the desire of Eastbourne to be created a county borough is an adequate ground for holding an intermediate census almost within two years of the next national census; and the consent to the application of Eastbourne will make it difficult to refuse similar requests from other boroughs with a similar object which could now reasonably await the result of the next census in 1911. There appears, moreover, in view of the strong local desire to prove the claim to a population of 50,000, to be some danger of an attempt to falsify the returns with a view to overstate the population, more especially as in the absence of statutory provision for the enumeration there will be no legal penalty for false returns.

THE PERILS OF BOVINE TUBERCULOSIS.

THE danger to the community from the unsuspected but tuberculous cow, to which we called attention last week, is ably dealt with by Dr. E. C. Schroeder, of the United States Bureau of Animal Industry, in Circular 118, issued by the United States Department of Agriculture. He clearly demonstrates the danger to public health through the consumption of milk or butter from cows which react to the tuberculin test. A series of excellent photographic reproductions is given of dairy cows in apparently splendid condition, all of which were found to be tuberculous. 40 per cent. of these animals were expelling tubercle bacilli in the fæces and consequently were liable to contaminate accidentally the milk during the process of milking as well as the butter prepared from the milk. The prevalence of tuberculosis among dairy cows has been variously estimated at from 10 to 90 per cent., and confirmatory evidence is afforded by the claim made by some dairymen that a milk famine would result from the condemnation of all tuberculous cows for dairy purposes. It is urgently necessary, therefore, that dairy herds should be free from diseased animals. The work of Dr. Albin Burkhardt showed that of 1452 human cadavers 91 per cent. showed tuberculous lesions, irrespectively of the cause of death, and other investigators have placed the figure at 66 to 96 per cent. It would appear that few persons entirely escape the disease, though the majority die from other causes and many are not conscious during life that they are affected. When it is considered that milk has also been shown to contain the germs of enteric fever, diphtheria, scarlet fever, and other diseases, and the poisons that cause the high death-rate from abdominal diseases among young children it does not seem to be possible to exaggerate the need for strenuous action to be taken with the object of securing a permanently pure supply of milk. Dr. Schroeder considers that dairy herds can be rendered free from tuberculosis by the proper application of the tuberculin test and the segregation of all reacting animals.

THE RESEARCH HOSPITAL AT CAMBRIDGE.

AT the latter end of the year 1905 a small hospital of only five beds was opened at Cambridge. It was founded for the study of special diseases and in particular of those diseases which are at present chronic, which disable the patient, for which no cure is at present known, and for which no satisfactory treatment has up to now been found. Cases of such diseases are not for the most part, and rightly so, accepted by ordinary hospitals, simply because so little can be done for them. It was for the study of such diseases that a number of medical men in Cambridge formed a committee and opened the above-mentioned hospital. The first disease to be studied was "rheumatoid arthritis," one which is perhaps less amenable to treatment and more crippling to those whom it attacks than any other. The course of study is as follows: a clinical study of certain new methods of treatment; the bacteriology of certain chronic infections associated with rheumatoid arthritis; a systematic examination of patients in order to discover the seats of such infection; observations on changes in the nervous system associated with rheumatoid arthritis; and a study of the morbid anatomy and histology of cases of rheumatoid arthritis and gout. So far no public appeal has been made for funds, the expenses having been met by the staff, by Cambridge medical students and by various friends, and by the fact that those engaged in the research take no fees and receive no remuneration. The annual expense of keeping the hospital open is £250, and it has been decided to make an appeal for help. The appeal is signed by Sir Clifford Allbutt, Regius professor of physic in the University of Cambridge; Dr. William Osler, Regius professor of medicine in the University of Oxford; and Sir Thomas Barlow, Sir W. Watson Cheyne, Sir William S. Church, Sir Victor Horsley, Sir Jonathan Hutchinson, Sir Donald MacAlister, Professor Howard Marsh, Mr. Henry Morris, and Sir R. Douglas Powell. The work of the committee is fourfold: (1) to give relief to the individual patient; (2) to benefit others suffering from similar diseases by throwing light on their origin and treatment; (3) to discover means of preventing their onset in those at present healthy; and (4) to impart the knowledge thus gained to others. This is a great work and we earnestly hope that the appeal, backed as it is by names of weight, will be successful. The hospital has recently been closed for want of funds. A sum of £8000 would enable it to be kept open permanently. The amount is not large but the benefits would be.

THE Society for the Study of Disease in Children having joined the Royal Society of Medicine as the Section for the Study of Disease in Children, Mr. R. Clement Lucas, the honorary treasurer of the late society, has handed over to the Royal Society of Medicine a cheque for £261 4s. 6d.,

being the cash lying at the bank, and has also transferred £800 Consols, invested capital.

WE regret to announce the death, on Nov. 27th, of Dr. William Alfred Elliston of Felixstowe, in his sixty-ninth year. Dr. Elliston was the President of the British Medical Association in 1900 and the father of Mr. Guy Elliston, the general secretary of the British Medical Association. We hope to publish some notes of his career.

A TELEGRAM from the Acting Governor of Mauritius, received at the Colonial Office on Nov. 27th, states that for the week ending Nov. 26th there were 11 cases of plague and 8 deaths from the disease.

MOTORING NOTES.

By C. T. W. HIRSCH, M.R.C.S. Eng., L.R.C.P. Lond.

THE question of insurance of a motor car, especially for one used daily, as medical men use their automobiles, is a most important one, and as since referring to the matter in a recent article I have had a good many letters from professional colleagues, I thought that perhaps the profession might like particulars as to some of the chief offices that undertake this class of risk, the salient features of their policies, and the points to which to pay attention when contemplating such an insurance.

I think it may be taken as beyond doubt that all who own or drive motors should be covered against any sum they may become legally liable to pay as damages and costs for injury to any person or persons, or for damage to property caused by the car while in charge of either the owner or his driver. However carefully a man drives someone may fall in front of the car, and then, whether the driver is to blame or not, even whether the person is actually injured or not, there is the possibility of an action for compensation. If these risks are covered the insurance companies defend the action, or, what is more often the case, they compensate the alleged injured party, save all worry, and relieve the insured of all responsibility. The one point to make certain about is that the policy covers all likely risks. A policy for, say, £100 third party risks, is of little value, for if someone should unfortunately be injured or think himself damaged a sympathetic jury might give him £500 damages, and then the insured would have himself to pay the extra £400, and in addition be uncovered as to third party risks for the rest of the term of his policy. A good many take out an insurance and get a special discount by carrying themselves the first £5, or £10, or even £25, of each claim, the discount being as much as 40 per cent. in the last-named instance with the Motor Union Insurance Co., but it appears to me not a good plan. Only recently I read in the *Autocar* a letter from a gentleman whose policy covers all liability with the exception of the first £5 of any claim; he had an accident consisting of damage to car £6 10*s.* and injury to a wall £3; the company merely allowed £1 10*s.* for the car damage and nothing towards the other claim. I understand that this is perfectly correct, and also that under such a policy if a car slightly injured, say, ten people and four dogs, and if the 14 claims were each for less than £5, the insured would himself have to pay each claim and the company would not be liable for any of them. The conclusion seems that if it is worth while to insure then it is as well to cover all liability.

Some companies, such as the Commercial Union, United Legal Indemnity Insurance Society, the Motor Union Insurance Co., D. A. Kinlock's Lloyd's Policy, and the Car and General Insurance Corporation, Limited, now issue, either alone or combined with their composite policies, protection against all claims for personal injury and damage to property up to an unlimited amount and without any limit as to the number of accidents. As while on a professional round one frequently has to enter private roads, such as a private park or a drive up to the patient's house, and as then damage might be done to a gate or fence, I think it would be as well to insist that third party risks should cover damage though done on a private road, if the same has to be entered for the purpose of paying a professional call. I notice that the Commercial Union Company especially state: "Accidents to car are not limited to a public thoroughfare."

Personally I always drive myself, and nearly all the companies, I notice, allow a 5 per cent. reduction in the premium if the car is driven only by the owner, which is, I think, wise, as the owner is certainly more careful of his property than a paid driver would be. I remember last year having to go to Gravesend to conduct some St. John Ambulance examinations; a fog came on and I took over four hours in covering the nine miles to my home, and next day I heard a colleague's chauffeur remarking how, if he had been the driver, no matter how dense the fog might have been he would have done it in not much over the hour. His speech made me very glad that I was my own driver and also made me comprehend why the insurance companies allow a reduction if the owner is his own driver.

The question of covering damage to one's own car is a debateable one. If a driver is employed it is probably as well to cover this risk; if the owner is his own chauffeur he may like to take these risks himself. I now do so. Still, "pride may have a fall," and some day I may regret my saving of a few pounds a year needed to cover this extra risk. I was sorry that I had not done so some six years ago, when my hub brake drum fell off on Hog's Trough Hill, Brasted, and my but two-year-old Benz, which cost £260, became a wreck that merely fetched £30, so when the new car arrived I did not refuse to see the soft-spoken gentleman who called to expatiate on the advantages of insurance; in fact, I listened, was convinced, and insured. One day an unminded coal-cart horse elected to have a free motor drive; he decided on my little two-seater and jumped in alongside of me. I like both the mechanically propelled and the vehicles drawn by living animals, but I rather bar the two combined, so with a little effort and a big jump over the steering column and radiators I retired and left the quadruped in possession. Alas, the animal had a trade jealousy of the horseless carriage, and anyway the car was not built for the job, and the axle and body suffered. Though I was not to blame—in fact, the owners of the coal-cart were fined for leaving their horses unattended—still the insurance company kept me waiting some time before they sanctioned the repairs needed, and then were not over-generous. I had a trouble to get a new front axle, as their repairer wished to straighten the old one which had bent when the horse posed himself on it. Insurance companies are now, I believe, more generous, and the companies I name I have heard are most fair and anxious to satisfy their customers. All the companies mentioned here permit small repairs up to £5 to be executed without waiting for the company's consent; and, what is most important, a replacement value of the car can be agreed upon by arrangement at the time of effecting the insurance. This latter is of consequence, as otherwise if the car is totally destroyed by accident or fire the company would only pay the market value, which in the present state of the motor trade may be very different to the replacement value.

Most policies now include damage to lamps and tyres when the car is also damaged, though the majority have a limit of £5 for each lamp and only pay the cost of repairing rubber tyres where the damage is directly and immediately due to the accident for which compensation is payable, and they exempt superficial incisions.

For an additional premium certain of the companies undertake to provide the assured with a temporary car or to pay compensation at the rate of £10 a week during the repair of any damage to the car claimable under the insurance; others without extra premium agree to pay special compensation of £1 per day if repairs of insured damage to car are not completed within 20 working days from date of acceptance of estimate by the company, but I somehow think that they seldom have to pay under the latter clause. Still, with foreign cars there is always the possibility that great delay may occur in obtaining spare parts, but probably the insurance company would not accept an estimate until the repairer had the new parts in hand. I remember a friend who some two years ago cracked his water jacket and he was kept waiting over two months for a new cylinder cover. I myself only this year had to wait three weeks for a large crown wheel, but I am pretty positive that if I had been so insured I should not have been paid by the insurance company.

The United Legal Indemnity Insurance Company and the

Motor Union Insurance Company under their special policy also cover certain mechanical breakdowns, and if a chauffeur is employed this risk is worth considering. Fire risks are with careful men very remote, and it is as well to remember that if they are covered it should be for the full value, for if a car worth £300 is only insured against fire for, say, £100 and is absolutely destroyed, the company would only pay £33 6*s.* 6*d.*, their proportion of the value.

Servants such as chauffeurs come under the Compensation Act, so if one is employed it is as well to insure against his being injured. Under the Secret Commission Act they are not supposed to make a profit on goods, such as spares, petrol, lubricating oil, which they buy for their employer, so if they should fall down the motor pit or get a back fire they may make up for the "perks" they lose by putting in a big claim under the Employers' Liability and the Workmen's Compensation Acts.

The following are some particulars of first-class companies and I must express my thanks to the various secretaries for the information which I am now able to give, and with these facts any would-be insurer should be able to decide for himself as to which company will answer his requirements the best.

The Commercial Union Assurance Company, Limited, of 24, 25, and 26, Cornhill, London, E.C., issue a special composite policy for cars used either for private or professional use. This policy covers: *public liability*, that is claims by the public for personal injury and damage to property *anywhere* in the United Kingdom up to an *unlimited* amount, and includes law costs incurred with the company's consent; *accidental damage* to the car and lamps, including tyres and accessories when damaged by an accident, which at the same time causes damage to the car itself *anywhere* in the United Kingdom; accidental damage to car sustained during transit by road, rail, *sea*, or inland waterway anywhere in the United Kingdom of Great Britain and Ireland. *Fire and burglary* are included up to the full value of the car *at the time of the fire or loss*. Urgent repairs up to £5 may be executed without waiting for intimation of the company's consent. The following table gives the annual premium for the above-named benefits:—

The h.p. is the lower of the two stated by the maker.	6-h.p.	8-h.p.	10-h.p.	12-h.p.	16-h.p.	20-h.p.
	£ s.	£ s.	£ s.	£ s.	£ s.	£ s.
Full indemnity	8 0	10 0	11 10	12 10	15 10	18 10
If insured bears the first £5 of each claim under each section...	7 0	8 15	10 5	11 5	14 5	17 0
If insured bears the first £10 of each claim under each section...	6 0	7 10	9 0	10 0	13 0	15 10
If insured bears the first £25 of each claim under each section...	4 0	5 0	6 0	7 0	9 10	11 10

For an additional premium of £1, the owner can insure his liability under the Fatal Accidents Act, 1846, the Employers' Liability Act, 1880, the Workmen's Compensation Act, 1906, and at Common Law, in respect of accidents to his chauffeur. Two cars belonging to the same owner (only one being out at a time) can be insured at a reduction of 20 per cent. on the total premiums for both cars. If both cars are out at one time, the reduction will be 10 per cent. For three or more cars special terms will be quoted. The above premiums are reduced by 5 per cent. if assured alone drives.

The Motor Union Insurance Company, Limited, of 1, Albemarle-street, Piccadilly, issue a special policy, which includes the subscription to and full membership of the Motor Union, and motorists who are already members of that body are entitled to deduct the sum of 1 guinea from the premium of the special policy of this company. This policy covers unlimited third-party risks, damage to car, the result of accident, to the full value insured, and repairs up to the value of £5 may be executed upon the authority of the assured, without waiting the sanction of the company, and by arrangement a replacement value of the car can be agreed upon. Special compensation if the repairs take longer than 20 working days, *after acceptance of estimate by the company;* lamps up to a limit of £10 are covered when damaged by an accident and so are tyres. For an extra premium of £5 5*s.* per cent. on the *full value* of the car the breaking or fracturing of any part of the motor, other than by accident or fire, can be covered, but only as far as the actual cost of dismantling and replacing of the broken part, and the owner has to bear the first 50*s.* of each breakdown—for example, the crank breaks, cost of repair and replacement £20, owner pays £2 10*s.* and carriage, the company pays £17 10*s.* The following is the premium chart, excluding charge for mechanical breakdowns:—

—	Value not exceeding—					
	£100	£200	£300	£400	£500	£600
	£	£ s.	£ s.	£ s.	£ s.	£ s.
Not exceeding 8 h.p.	9	10 0	11 0	12 0	—	—
,, ,, 12 ,, ...	10	11 0	12 0	13 0	14 0	15 0
,, ,, 16 ,, ...	12	13 0	14 0	15 0	16 0	17 0
,, ,, 20 ,, ...	14	15 0	16 0	17 0	18 0	19 0

If owner carries first £5 of each claim, above premiums reduced by 15 per cent.; if £10, by 25 per cent.; if £25, by 40 per cent.

The United Legal Indemnity Insurance Society, Limited, of 222–225, Strand, London, whose policies are guaranteed by the Law Guarantee Trust and Accident Society, Limited, of Chancery-lane, a society with a capital of £2,250,000, issue a special policy for medical motorists. This gives unlimited indemnity against claims by the public, whether the result of injury to persons, animals, or property, and includes all law costs incurred with their consent. Accidental damage to the car is covered up to the full value, including lamps up to £5 each and tyres £8 each. Fire is also included up to the full value of the car, and the policy states the actual value of the car, which varies according to the age of the car. The society also pays for certain breakdowns, that is, for the following parts of the car, if fractured, though such fracture is not traceable to an accident, but to a defect: engine crank shaft, crank chamber, flywheel, front axle, rear axle (*but not the driving axle or shaft*), front or rear wheels, and springs. Immediate necessary repairs up to £5 may be executed without consulting the company, and I believe they are well known for the promptness and liberality of their settlement of claims, as well as lack of delay in having repairs executed. The premium varies from £12 10*s.* for a 6-h.p. car to £15 10*s.* for one of 16-h.p. The car may be driven by any competent and licensed person, and if the owner is his own driver they allow a deduction of 5 per cent.

The Ocean Accident and Guarantee Corporation, Limited, of Moorgate-street, London, E.C., issue a policy giving unlimited indemnity as far as claims by the public are concerned, and covering accidental damage to the car, including tyres and lamps up to full value, as well as fire up to full value. On receipt of the name of the maker of the car, date of make, horse power, original cost, and present value of car they will quote the premium chargeable for these risks, as it is their policy practically to make a rate for each and every risk as it comes before them, based upon the conditions under which the car is to be used.

The Car and General Insurance Corporation, Limited, of 1, Queen Victoria-street, London, E.C., issue a variety of benefits, as the following particulars will show:—

Mechanical breakdown.—Damage to car through (*a*) pre-ignition; (*b*) parts becoming slack or breaking adrift; (*c*) breakage of parts; (*d*) overheating; (*e*) freezing; (*f*) presence of any foreign substance; (*g*) defective lubrication; (*h*) chains riding off sprockets; (*i*) tyres, covers, or non-skidding devices coming off; (*j*) using too fierce a clutch, or engaging clutch too suddenly, will be covered anywhere in the United Kingdom up to full value [excluding fire, wear and tear, and depreciation, and the first £10 of each damage].

Accidental damage.—Damage to car by accidental and external means anywhere in the United Kingdom will be covered up to full value at time of damage [excluding fire, wear and tear, and depreciation.]

Tyres, lamps, accessories.—Damage to tyres, lamps, and accessories by accidental and external means whilst actually on insured car [whether car is damaged at same time or not] will be covered anywhere in the United Kingdom up to full value at time of damage [excluding punctures, fire, wear and tear, and depreciation].

Transit.—Damage to car by accidental and external means whilst being conveyed by road, rail, or inland waterway, anywhere in the United Kingdom, will be covered up to full value at the time of damage [excluding fire, wear and tear, depreciation, tyres, lamps, and accessories].

Claims by the public.—Claims by the public for injury to persons [excluding passengers] or animals or damage to property caused by insured car, anywhere in the United Kingdom, including law costs incurred with the consent of the corporation, will be covered up to an unlimited amount.

Fire, explosion, &c.—Loss of or damage to car [including tyres, lamps, and accessories whilst actually on insured car] by fire, explosion, self-ignition, or lightning, anywhere in the United Kingdom, will be covered up to full value at the time of fire.

Theft.—Loss of car by theft [excluding accessories, unless car stolen at same time] will be covered anywhere in the United Kingdom up to full value at time of theft.

The h.p. is the lower of the two stated by the maker.	6-h.p.	8-h.p.	10-h.p.	12-h.p.	16-h.p.	20-h.p.
	£ s.	£ s.	£ s.	£ s.	£ s.	£ s.
Full indemnity (except mechanical breakdowns, excess £10)	8 10	11 0	12 10	13 10	16 0	19 0
Full indemnity. Excess first £5 each claim under each section (except mechanical breakdowns, excess £15)...	7 0	9 10	11 0	12 0	14 10	17 10
Full indemnity. Excess first £10 each claim under each section (except mechanical breakdowns, excess £20)...	6 0	8 10	9 10	10 10	13 0	16 0
Full indemnity. Excess first £25 each claim under each section (except mechanical breakdowns, excess £35)...	4 0	6 0	7 0	8 0	10 0	12 0

This company also issues a policy excluding mechanical breakdowns at a somewhat lower premium, about £1 in each case.

A special "Lloyd's" policy is issued by Mr. D. A. Kinlock (Messrs. Leslie and Godwin) of 52, Cornhill, London, E.C. This covers all third-party claims, as well as damage to insured car, including lamps and tyres, also loss by fire or theft. An important feature claimed is that the policy contains a clause to the effect that the value of a sum to be fixed at the time of effecting the insurance is admitted for all purposes of loss or damage, and so in the event of total destruction by fire or accident the owner obtains a replacement sum instead of the market value of the property. Mr. Kinlock does not issue a scale of rates but treats each car upon its merits. I also understand that he allows a return of from 25 to 30 per cent. of the premium when no claim is made under the policy.

The Railway Passengers' Assurance Company of 64, Cornhill, London, E.C., issue policies giving benefits, as shown in the table given below:—

Benefits secured.	£10 10s. premium insures up to the undermentioned amounts.	£16 premium insures up to the undermentioned amounts.	£18 10s. premium insures up to the undermentioned amounts.	£20 5s. premium insures up to the undermentioned amounts.
1. Indemnity against legal claims for damage to persons and property.	£100 for one accident with a limit of £300 in one year.	£200 for one accident, with a limit of £600 in one year.	£250 for one accident, with a limit of £750 in one year.	£300 for one accident, with a limit of £900 in one year.
2. Indemnity against damage to car (lamps and tyres excepted) caused by collision or external and accidental means (other than explosion or self ignition or combustion), not occasioned by any known defect in the car. [N.B.—The first £2 of any damage is borne by the assured.]	£50 for one accident, with a limit of £150 in one year.	£100 for one accident, with a limit of £300 in one year.	£150 for one accident, with a limit of £450 in one year.	£200 for one accident, with a limit of £600 in one year.
3. Indemnity against damage to car caused by explosion or self-ignition or combustion not occasioned by any known defect in the car.	£100.	£150.	£200.	£250.
4. Indemnity against loss of car by theft or burglary or damage to car caused by attempted theft or burglary.	£100.	£150.	£200.	£250.
5. Insurance of paid driver...	Not provided for in above premium (but may be at an extra charge).	£100 for death. £1 a week during total disablement. (Limit 26 weeks.)	£100 for death. £1 a week during total disablement. (Limit 26 weeks.)	£100 for death. £1 a week during total disablement. (Limit 26 weeks.)

ROYAL SOCIETY OF MEDICINE.

DEBATE ON HEREDITY, WITH SPECIAL REFERENCE TO CANCER, TUBERCULOSIS, AND DISEASE OF THE NERVOUS SYSTEM.—(*Continued from p. 1627.*)

Mr. H. T. BUTLIN reopened the discussion, directing his attention chiefly towards the question of cancer. He said that the labours of the Imperial Cancer Research Committee had shown that certain animals—for instance, certain mice—showed a susceptibility to cancer, while other mice were comparatively immune. And it was natural to infer that if such were true of mice it would be true also of men. And that susceptibility had been shown to be really born in the animal. With regard to heredity, on the one hand it exercised a far-reaching influence, and yet there were curious limitations. For instance, it was said by those who held that cancer was due to heredity that collateral branches must be shut out and that one must not talk of the heredity of cancer skipping a generation. He gave an instance of a man who had a peculiar instinct which enabled him to assess readily the value of old curios and it was said by his friends that he must be a Jew. But he said he was not, but when inquiry was made it was discovered that one of his ancestors married a Jewess, and he felt sure that that strain was in the blood. The susceptibility to hay fever seemed also to be inherited, but some members of a family were susceptible to hay fever while the others were not. The same family predisposition and limitation were seen in cases of exostosis. It was generally accepted that certain features could be inherited, such as the shape of the nose, the colour of the eyes and hair, the qualities of meanness and cowardice on the one hand, and courage and generosity on the other. It was also admitted that the strength or weakness of certain parts could be inherited, and so could abnormalities. Many believed also that the tendency to gout could be similarly transmitted. It had been said that those who believed in heredity could not support their side by figures, but at all events it was supported by logic, and there was also such evidence as was afforded by Dr. Bashford's figures. The arguments against heredity were put forward by his colleague at St. Bartholomew's, Mr. Cripps, 30 years ago. The arguments came to this: that one must exclude in the evidence in favour of inheritance those cases in which the disease had skipped a generation, and also that evidence which depended upon the number of collateral relatives who suffered from the disease, and one must exclude those cases in which the disease was not of the same variety in all the members of the family. But those who believed in heredity did not feel disposed to accept those restrictions. Another objection made was that there was no regular proportion of the number of those who suffered from cancer in the susceptible families and that there was not enough cancer shown in the families which were regarded as susceptible. He would take the instance of a man with epithelioma on the edge of his tongue. The man said he scratched his tongue with a carious tooth weeks or months previously. Mr. Butlin found that in front of his tongue there were leucoplakia and chronic superficial glossitis and there was a clear history of syphilis long ago. The man was over 40 years of age. After thinking out the etiology of the disease he said it was, first, that he had injured his tongue by his carious tooth; secondly, that he had on his tongue for a considerable time

the predisposing condition, leucoplakia; and then he said probably he would not have had that leucoplakia if he had not smoked a good deal and if he had not had syphilis. Again, if he had been 25 instead of 45 he probably would not have had cancer. That man might have four brothers who would not show cancer because probably they had not had syphilis and had not smoked excessively. But there was no proof that those brothers were not susceptible to cancer. He had not collected any evidence on the question, but he was led to speak in the discussion because his name was mentioned in Mr. Bashford's paper, and he could not recollect why. Then he found that Dr. Bashford had unearthed a paper which he (Mr. Butlin) read 21 years ago, a report of the collective investigation of the committee of the British Medical Association, a reply to questions addressed to medical practitioners in different parts of the country. Although previously to that he had believed in the constitutional origin of cancer, when he commenced to examine those reports he was very much under the influence of Mr. Cripps's very clever paper. But when he finished with the report he had concluded that there was evidence of a very important kind which had never previously been referred to. The evidence so far did not afford sufficient ground on which to base a theory, but there were many facts which tended in the same direction, and in the absence of evidence to the contrary they must be held for the moment to have a very important place. The point which Dr. Bashford made with regard to the cases in his table concerning hæmophilia and night blindness was that the inheritance did not come down always through the males or always through the females, but sometimes through the male and sometimes through the female. But in Mr. Nettleship's pedigree it came down sometimes through the male and sometimes through the female.

Sir JOHN MCFADYEAN dealt with the question from the facts obtained from breeding and experimentation of cattle, horses, and other animals. With rare exceptions, newly-born calves did not react to tuberculin, and when newly-born non-reacting calves born of tuberculous parents were reared in circumstances which shielded them from infection they remained free from the disease. It had been alleged that tuberculosis was more prevalent in some breeds of cattle than in others—namely, chiefly in shorthorns and Jerseys, and especially also in the Ayrshire breeds. But a study of the question showed that this was not so much so as was generally thought. In forming such conclusions there was the obvious fallacy involved in any attempt to measure the resistance to tuberculosis by comparing the incidence of the disease amongst different groups and individuals without allowing weight to the fact that the disease was contagious, and that the opportunities for infection might have been widely different in the groups compared. The difference in degree of infection could be explained by dissimilarity of environment. Experiments had recently been carried out in which cattle had been infected with measured quantities of tubercle bacilli, and those researches showed that there was no single individual possessing powers of resistance much above or much below the average for animals of the same age and weight. So that in the case of bovines there seemed to be no varying degrees of susceptibility on the part of different breeds of animals. He thought the researches showed that it was not good advice to exhort the medical profession to provide statistical information necessary to establish the comparative incidence of tuberculosis in the descendants of tuberculous and non-tuberculous parents respectively. Such work as that must, he thought, be largely misdirected energy.

Dr. A. M. GOSSAGE desired to deal specially with the question of definite characters and abnormalities being handed down to descendants practically without alteration—i.e., the abnormality was found in the descendants in quite as severe a form as in the parent. That was joined on to another factor—namely, when the abnormal person crossed with a normal person, the result was that some of the children were abnormal and some normal. In order to explain those facts a theory was required, and the only one which covered the cases was that of Mendel. The facts with regard to human beings were not susceptible of confirmation by experiment and the information available was not sufficient to form a theory upon. But Mendel's theory was built up upon facts observed in plant life and lower animals. He proceeded to support the lines of argument already adduced by Professor Bateson of Cambridge in the first day of the debate and gave instances in conditions such as epidermolysis bullosa, diabetes insipidus, &c. With regard to hæmophilia, most of those subjects did not live long enough to beget offspring. Hæmophilia, however, had been found not to be a strictly sex limited disease, and it was not found to come out according to what one would expect according to Mendel's law.

Dr. F. C. SHRUBSALL showed a number of statistics obtained with regard to tuberculosis, chiefly from the records of Brompton Hospital, and viewing the matter from various standpoints. The action of direct heredity did not seem to have any effect in either lengthening or shortening the disease.

Mr. HOWELL T. EVANS showed a number of slides illustrating the perpetuation in successive generations of various abnormalities, such as cephalhæmatoma and cysts in the neck. He also showed photographs of peculiar instances in which an abnormality of the ear in a woman was perpetuated in her daughter, and helical fistula was illustrated in a similar manner. He expressed a strong view in favour of heredity of abnormalities.

Dr. G. A. HERON said that 35 years ago he was a member of the resident medical staff of one of the largest county lunatic asylums in the country, and he had continually noticed in the visitors who were closely related to the patients a low level of intelligence. One of the most striking features of those visitors was stupidity with marked slowness of comprehension. From that low stock had come many inmates of the asylum, and they illustrated various types of insanity, from the actual maniacal and the profoundly melancholic to that most pitiful of human beings, the drivelling idiot. Such observations concerning lunatics and their near relatives were so common that he felt justified in concluding that most of the types of insanity sprang from a stock which was characterised by a low grade of brain development, and that heredity had a no small measure of influence in the incidence of insanity. Whether the low grade brain was an indication of the survival of the unfit or the throwing back of an old time low-grade ancestry he did not know. And he reminded the meeting of the frequent occurrence of religious revivals and an accession of inmates to asylums, and a similar result was noticed in times of great excitement as during the Parliamentary election. When the cause of cancer was known it would be possible to speak with some authority on that subject, but it would be probably admitted that cancer attacked the individual chiefly through the alimentary tract—in other words, that it was an infective disease. The proneness of the body to become the seat of various infections, such as cholera, typhoid fever, small-pox, scarlet fever, relapsing fever, measles, ague, and rabies, was a well-known fact, and he submitted that the same applied to tuberculosis. Before Koch in 1882 demonstrated the true cause of tuberculosis practically every authority on medicine in this country and others believed that the disease was mainly dependent for its existence upon a peculiar hereditary tendency in certain families in consequence of which they fell easy victims to tuberculosis. It was now known that the influence of tuberculosis depended on the infection of the individual and not at all upon any hereditary taint or tendency in the person. And even if it were generally believed that tuberculosis was the expression of an inherited tendency, of what help would that fact be? He thought it probable that a person was to some extent protected from a second attack of tuberculosis by having had one attack, but that knowledge was not of much use in fighting a disease which killed about 50,000 people every year in England and Wales. But great strides were being made in the treatment of the disease, for the death-rate from tuberculosis had now dropped from 35 to 10 per 10,000 of the population.

At the concluding meeting on Dec. 2nd the following were the speakers: Mr. G. P. Mudge (biologist, London Hospital), Professor Karl Pearson, Dr. W. Bulloch, and Mr. N. Bishop Harman. Our account of this meeting will appear next week.

A GLOUCESTERSHIRE CENTENARIAN.—Mr. John Rogers of Tewkesbury celebrated the hundredth anniversary of his birthday on Nov. 20th and was the recipient of congratulations from the King, the Chancellor of the Exchequer, the Lord Mayor of Bristol, and many others.

Looking Back.

FROM

THE LANCET, *SATURDAY*, Dec. 4th, 1830.

PROPOSED IMPROVEMENT IN THE CONSTRUCTION OF SPECTACLES.

By MARTIN EVANS, *M.D.*, *Teignmouth.*

MANY of your readers may be inclined to suppose that the subject of the present letter is misplaced, when inserted in the columns of your invaluable Journal. However, I am disposed to look upon any information which tends to remedy a defect in the organs of our most useful sense, the eyes, as perfectly adapted to them.

For some time past, I have been in the habit of using the doubly-concave eye-glass, commonly employed by young people, and have found that its utility may be very much, indeed wonderfully increased, by fixing it in a particular direction in relation to the eye. The statement for procedure in the experiment may appear obscure without the assistance of a diagram, but I shall endeavour to make myself as intelligible as the nature of the subject admits. That part of the glass which rests at the inner canthus should be fixed as a centre, whilst the part towards the external canthus is directed *forwards* to a degree which varies in different persons. When it reaches this point or focus, the object viewed appears extremely clear, so much so indeed as to justify an assertion of increase in a double ratio. Persons who do not require the aid of glasses cannot appreciate this improvement. Those only whose vision is so far impaired as to need such artificial contrivance will pronounce on its application. My experiments on the doubly-convex glasses of old people, have not been sufficient to bear me out in extending the principle to them; neither have I as yet arrived at a satisfactory rationale of the process; some of your readers, therefore, may be ingenious enough to do so. From the knowledge of this circumstance, I venture to suggest to Opticians a practical improvement in the construction of spectacles. It is the following:—Let the space between the lenses, or that part which rests on the ossa nasi, be formed with a *pretty stiff* horizontal joint in the centre, in order that an obtuse angle could be formed when necessary, the vertex represented by the joint, the sides by those parts of the spectacles which surround the lenses and directed *forwards* to a certain extent as above mentioned. This shape, although at present appearing unhandsome, would by time, and its utility, be reconcilable to our ideas of beauty in figure.

Teignmouth, Devonshire, October 25, 1830.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 7591 births and 4847 deaths were registered during the week ending Nov. 28th. The annual rate of mortality in these towns, which had been equal to 15·9 and 15·6 per 1000 in the two preceding weeks, was again 15·6 in the week under notice. During the first nine weeks of the current quarter the annual death-rate in these towns averaged 14·6 per 1000, and in London the mean rate during the same period did not exceed 14·0. The lowest annual death-rates in these towns last week were 4·7 in East Ham, 5·8 in Burton-on-Trent, 5·9 in Coventry, and 6·2 in Hornsey; the rates in the other towns ranged upwards, however, to 23·4 in Stockport, 23·5 in Stockton-on-Tees and Walsall, 25·4 in Rotherham, and 26·2 in Middlesbrough. In London the death-rate last week was equal to 15·8, and was higher than in any week since the beginning of May last. The 4847 deaths from all causes in the 76 towns were within four of the number returned in the previous week, and included 407 which were referred to the principal epidemic diseases, showing a further slight decline from the numbers in recent weeks; of these 407 deaths, 140 resulted from measles, 102 from diarrhœa, 66 from diphtheria, 41 from "fever," 30 from whooping-cough, and 28 from scarlet fever, but not one from small-pox. The deaths referred to these epidemic diseases during the week were equal to an annual rate of 1·3 per 1000, against 1·4 in each of the two previous weeks; the rate from these diseases was also equal to 1·3 per 1000 in London. No death from any of these epidemic diseases was registered last week in Burnley, Swansea, Northampton, Hornsey, Reading, or in five other smaller towns; the annual death-rate therefrom, however, ranged upwards in the other towns to 3·6 in Stockport, 3·7 in Warrington, 5·6 in Leicester, 7·4 in Rotherham, and 7·6 in Middlesbrough. The fatal cases of measles in the 76 towns, which had steadily increased in the nine preceding weeks from 31 to 126, further rose to 140 in the week under notice; they caused annual death-rates equal to 1·5 in Oldham, 2·2 in Huddersfield, 2·5 in Stockport, 4·6 in Leicester, and 4·9 in Rotherham. The 102 deaths attributed to diarrhœa during last week showed a further decline of 37 from the numbers in recent weeks, and were fewer than in any week since the beginning of July last; the highest annual death-rates from this cause during the week were 1·5 in West Bromwich, Warrington, and Oldham, 1·6 in Rotherham, and 1·9 in Tynemouth. The 66 deaths from diphtheria showed an increase of ten upon those returned in the previous week; they included 37 in London and its suburban districts, three in Birmingham, two in Liverpool, four in Manchester and Salford, two in Sheffield, three in Hull, and two in Newport. The 41 deaths referred to "fever" during the week were within one of the number in the previous week, and included 15 in London and its suburban districts, four in Manchester and Salford, and two in Liverpool. The fatal cases both of whooping-cough and scarlet fever were below the average, and differed but slightly from recent weekly numbers; the two deaths from scarlet fever in Handsworth were equal to an annual rate of 1·5 per 1000. The number of scarlet fever patients under treatment in the Metropolitan Asylums and the London Fever Hospitals, which had been 3881 and 3809 at the end of the two preceding weeks, had risen again to 3831 on Saturday, Nov. 28th; the new cases of this disease admitted to these hospitals during the week under notice were 491, against 500 and 421 in the two preceding weeks. The deaths in London referred to pneumonia and other diseases of the respiratory organs, which had steadily increased in the six preceding weeks from 159 to 334, declined to 318 in the week under notice, and were 112 below the corrected average number in the corresponding week of the five years 1903–07. The causes of 53, or 1·1 per cent., of the deaths registered last week in the 76 towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death during the week were again duly certified in Leeds, Bristol, West Ham, Bradford, Newcastle-on-Tyne, Nottingham, and in 43 other smaller towns; the 53 uncertified causes of death in the 76 towns included, however, six in Liverpool, four in Birmingham, four in Sheffield, four in Preston, three in South Shields, three in Manchester, and three in West Bromwich.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been equal to 16·9 and 17·3 per 1000 in the two preceding weeks, declined again to 16·4 in the week ending Nov. 28th. During the first nine weeks of the current quarter the annual death-rate in these eight towns averaged 15·0 per 1000, and exceeded by 0·4 the mean rate during the same period in the 76 English towns. Among the eight Scotch towns the death-rate during the week under notice ranged from 12·1 and 14·8 in Paisley and Perth, to 18·2 in Greenock and 18·4 in Aberdeen. The 577 deaths in the eight towns showed a decline of 33 from the number returned in the previous week, and included 57 which were referred to the principal epidemic diseases, against 68 and 62 in the two preceding weeks; of these 57 deaths, 25 resulted from diarrhœa, 16 from whooping-cough, nine from scarlet fever, five from diphtheria, and two from "fever," but not one either from measles or small-pox. These 57 deaths were equal to an annual rate of 1·6 per 1000, which exceeded by 0·3 the mean rate from the same diseases in the 76 English towns. The deaths attributed to diarrhœa in the eight Scotch towns, which had been 29, 24, and 22 in the three preceding weeks, rose again to 25 in the week under notice, and included

12 in Glasgow, six in Dundee, three in Leith, and two each in Edinburgh and Aberdeen. The 16 fatal cases of whooping-cough corresponded with the number in the previous week; 11 occurred in Glasgow and two in Aberdeen. The nine deaths from scarlet fever showed a further slight increase upon recent weekly numbers and included four in Aberdeen and two in Glasgow. The five fatal cases of diphtheria, of which three were returned in Glasgow, showed a considerable decline from recent weekly numbers. The two deaths referred to "fever" (against seven and five in the two preceding weeks) were both returned in Glasgow; one was certified as enteric and the other as cerebro-spinal meningitis. The deaths referred to diseases of the respiratory organs in the eight towns, which had increased from 56 to 136 in the five preceding weeks, declined again to 133 in the week under notice, and were five below the number returned in these towns in the corresponding week of last year. The causes of 21, or 3·6 per cent., of the deaths registered during the week in the eight towns were not certified; in the 76 English towns during the same week the proportion of uncertified causes of death did not exceed 1·1 per cent.

HEALTH OF DUBLIN.

The annual rate of mortality in Dublin, which had been equal to 19·3 and 24·2 per 1000 in the two preceding weeks, declined again to 22·2 in the week ending Nov. 28th. During the first nine weeks of the current quarter the death-rate in the city averaged 19·7 per 1000, whereas the mean rate during the same period did not exceed 14·0 in London and 13·7 in Edinburgh. The 168 deaths of Dublin residents during the week under notice showed a decline of 15 from the high number in the previous week, and included 11 which were referred to the principal epidemic diseases, against eight and 21 in the two preceding weeks. These 11 deaths were equal to an annual rate of 1·8 per 1000; the rate from these diseases in the same week did not exceed 1·3 in London and 0·6 in Edinburgh. Of the 11 deaths from these epidemic diseases in Dublin last week, six resulted from measles, two from diphtheria, two from whooping-cough, and one from scarlet fever, but not one either from "fever," diarrhœa, or small-pox. The six fatal cases of measles showed a decline of two from the number returned in the previous week; and the deaths from whooping-cough also showed a decline. The 168 deaths from all causes during the week included 41 of infants under one year of age and 33 of persons aged upwards of 60 years; the deaths of infants showed a considerable increase, while those of elderly persons had declined. Six inquest cases and six deaths from violence were registered, and 70, or 41·7 per cent., of the deaths occurred in public institutions. The causes of two, or 1·2 per cent., of the deaths in Dublin last week were not certified; the proportion of uncertified causes of death in Edinburgh last week was equal to 5·5 per cent., while in London the causes of all but two of the 1451 registered deaths were duly certified.

THE SERVICES.

INDIAN MEDICAL SERVICE.

Lieutenant-Colonel to be Colonel: William Adair Quayle (dated April 1st, 1908).

The King has approved of the retirement of the following officers: Colonel George Jerome Kellie (dated Oct. 15th, 1908); Colonel William George Hume Henderson (dated Nov. 14th, 1908); Lieutenant-Colonel Samuel John Thomson, C.I.E. (dated Jan. 17th, 1908); Lieutenant-Colonel James Barry Gibbons (dated Feb. 17th, 1908); and Lieutenant-Colonel William Henry Wilson Elliot, D.S.O. (dated Nov. 15th, 1908).

TERRITORIAL FORCE.

Yeomanry.

Nottinghamshire (Sherwood Rangers): Surgeon-Captain George Thomson, from the Nottinghamshire (Sherwood Rangers) Imperial Yeomanry, to be Surgeon-Captain, with precedence as in the Imperial Yeomanry (dated April 1st, 1908).

Royal Field Artillery.

1st Northumbrian Brigade: The undermentioned officers, from the 1st Northumberland Royal Garrison Artillery (Volunteers), are appointed to the brigade, with rank and precedence as in the Volunteer Force (dated April 1st, 1908):—Surgeon-Major John Victor Walton Rutherford, Surgeon-Major (Honorary Captain in the Army) John Wreford, and Surgeon-Captain Robert Anderson Nesham (to be supernumerary).

Royal Engineers.

Headquarters, Welsh Divisional Engineers: Surgeon-Lieutenant James Herbert Dixon, from the 1st Cheshire Royal Engineers (Volunteers), to be Surgeon-Lieutenant, with precedence as in the Volunteer Force (dated April 1st, 1908). Surgeon-Lieutenant James H. Dixon to be Surgeon-Captain (dated May 5th, 1908).

Infantry.

7th Battalion, The Prince of Wales's Own (West Yorkshire Regiment): The undermentioned officers from the 3rd Volunteer Battalion are appointed to the battalion, with rank and precedence as in the Volunteer Force (dated April 1st, 1908): Surgeon-Captain Reginald George Hann and Surgeon-Captain Alexander Mackenzie. 4th Battalion, Alexandra, Princess of Wales's Own (Yorkshire Regiment): Surgeon-Captain Harry L. de Legh to be Surgeon-Major (dated Nov. 11th, 1908). 8th Battalion, The Worcestershire Regiment: Surgeon-Lieutenant Hubert R. R. Fowler to be Surgeon-Captain (dated July 14th, 1908). 5th Battalion, The Sherwood Foresters (Nottinghamshire and Derbyshire Regiment): The undermentioned officers, from the 1st Volunteer Battalion, are appointed to the battalion, with rank and precedence as in the Volunteer Force (dated April 1st, 1908): Surgeon-Major Edmund Vaudrey, Surgeon-Captain Richard Arnold Johnston (since deceased). 6th Battalion, The Sherwood Foresters (Nottinghamshire and Derbyshire Regiment): The undermentioned officers, from the 2nd Volunteer Battalion, are appointed to the battalion, with rank and precedence as in the Volunteer Force (dated April 1st, 1908):—Surgeon-Lieutenant-Colonel Alfred Chawner and Surgeon-Lieutenant Arthur Wilson Shea. 7th (Robin Hood) Battalion, The Sherwood Foresters (Nottinghamshire and Derbyshire Regiment): The undermentioned officer, from the 1st Nottinghamshire (Robin Hood) Volunteer Rifle Corps, is appointed to the battalion, with rank and precedence as in the Volunteer Force (dated April 1st, 1908):—Surgeon-Lieutenant Alexander Tydd Mulhall. 8th Battalion, The Sherwood Foresters (Nottinghamshire and Derbyshire Regiment): The undermentioned officers, from the 4th (Nottinghamshire) Volunteer Battalion, are appointed to the battalion, with rank and precedence as in the Volunteer Force (dated April 1st, 1908):—Surgeon-Captain Frederick William Johnson, Surgeon-Captain Arthur John Helm Montague, and Surgeon-Captain Harry Stallard (to be supernumerary). 5th Battalion, The King's Own (Royal Lancaster Regiment): Surgeon-Captain Bertram W. Hogarth resigns his commission (dated May 20th, 1908). Bertram Whewell Hogarth (late Surgeon-Captain, 5th Battalion) to be Captain (dated May 20th, 1908). 6th Battalion, The Northumberland Fusiliers: Surgeon-Lieutenant William George Richardson, from the 3rd Volunteer Battalion, to be Surgeon-Lieutenant, with precedence as in the Volunteer Force (dated April 1st, 1098). 4th Battalion, The Lincolnshire Regiment: Surgeon-Captain Arthur Stanley Green, from the 1st Volunteer Battalion, to be Surgeon-Captain, with precedence as in the Volunteer Force (to be supernumerary) (dated April 1st, 1908). 5th Battalion, The Lincolnshire Regiment: Surgeon-Captain John Williams Nicholson, from the 1st Volunteer Battalion, to be Surgeon-Captain, with precedence as in the Volunteer Force (dated April 1st, 1908). The undermentioned officers, from the 3rd Volunteer Battalion, are appointed to the battalion, with rank and precedence as in the Volunteer Force (dated April 1st, 1908):—Surgeon-Lieutenant-Colonel and Honorary Surgeon-Colonel Francis John Walker and Surgeon-Captain James Matthews Duncan. 3rd Battalion, The Monmouthshire Regiment: Surgeon-Lieutenant-Colonel and Honorary Surgeon-Colonel Samuel Butler Mason, from the 4th Volunteer Battalion, The South Wales Borderers, to be Surgeon-Lieutenant-Colonel with honorary rank of Surgeon-Colonel, with precedence as in the Volunteer Force (dated April 1st, 1908). 4th Battalion, The Welsh Regiment: Surgeon-Lieutenant William Starbuck Griffith, from the

1st (Pembrokeshire) Volunteer Battalion, to be Surgeon-Lieutenant, with precedence as in the Volunteer Force (to be supernumerary) (dated April 1st, 1908). 4th Battalion, The Duke of Edinburgh's (Wiltshire Regiment): Surgeon-Major Herbert Paget Tayler, from the 1st Wiltshire Volunteer Rifle Corps, to be Surgeon-Major, with precedence as in the Volunteer Force (dated April 1st, 1908). 6th Battalion, The Durham Light Infantry: Surgeon-Captain William Murray Mackay, from the 2nd Volunteer Battalion, to be Surgeon-Captain, with precedence as in the Volunteer Force (dated April 1st, 1908).

Royal Army Medical Corps.

Professor William Osler is appointed to the Honorary Colonelcy of the Royal Army Medical Corps of the South Midland Territorial Division (dated Sept. 21st, 1908).

For attachment to Units other than Medical Units: Surgeon-Captain Thomas Harper, from the 1st Ayrshire and Galloway Royal Garrison Artillery (Volunteers) to be Captain, with precedence as in the Volunteer Force (dated April 1st, 1908). Surgeon-Captain James Henry Hunter, from the 3rd Durham Royal Garrison Artillery (Volunteers), to be Captain, with precedence as in the Volunteer Force (dated April 1st, 1908). Surgeon-Lieutenant Henry Goudie, from the 3rd Durham Royal Garrison Artillery (Volunteers), to be Lieutenant, with precedence as in the Volunteer Force (dated April 1st, 1908). Surgeon-Captain and Honorary Surgeon-Major Charles Sempill de Segundo, from the 20th Middlesex (Artists') Volunteer Rifle Corps, to be Captain with the honorary rank of Surgeon-Major, with precedence as in the Volunteer Force (dated April 1st, 1908). James Bertie Simpson (late Captain, 1st Sutherland Volunteer Rifle Corps), to be Captain (dated Sept. 1st, 1908). George Edward James Antoine Robinson, to be Lieutenant (dated Oct. 8th, 1908). Samuel Maclean (late Surgeon-Lieutenant, 1st (Cumberland) Volunteer Battalion, The Border Regiment), to be Lieutenant (dated Oct. 19th, 1908).

1st East Anglian Field Ambulance: Gerald Moore Hetherington to be Lieutenant (dated June 23rd, 1908).

3rd Lowland Field Ambulance: The following announcement is substituted for that which appeared in the *London Gazette* of Sept. 15th, 1908:—The undermentioned officers, from the 1st Edinburgh (City) Royal Garrison Artillery (Volunteers) are appointed, with rank and precedence as in the Volunteer Force (dated April 1st, 1908): Surgeon-Captain Alexander Morrison McIntosh to be Captain. Surgeon-Lieutenant James Hunter Harvey Pirie to be Lieutenant.

3rd Welsh Field Ambulance: Ernest Brice to be Lieutenant (dated May 20th, 1908).

3rd Wessex Field Ambulance: Surgeon-Major and Honorary Surgeon-Lieutenant-Colonel Henry Darville Brook, from the 20th Middlesex (Artists') Volunteer Rifle Corps, to be Major with the honorary rank of Surgeon-Lieutenant-Colonel, with precedence as in the Volunteer Force (dated April 1st, 1908).

2nd London General Hospital: Surgeon-Lieutenant-Colonel and Honorary Surgeon-Colonel Clement Godson, from the 18th Middlesex Volunteer Rifle Corps to be Lieutenant-Colonel with the honorary rank of Surgeon-Colonel, with precedence as in the Volunteer Force (dated April 1st, 1908).

3rd London General Hospital: The undermentioned to be officers whose services will be available on mobilisation (dated Dec. 2nd, 1908):—To be Lieutenant-Colonels: James Kingston Fowler, Rickman John Godlee, Sir Thomas Barlow, Bart., K.C.V.O., and Charles Robert Bell Keetley. To be Majors: Sidney Philip Phillips, Augustus Joseph Pepper, William Pasteur, Alfred Pearce Gould, John Rose Bradford, Arthur William Mayo Robson, Arthur Pearson Luff, and Arthur Edward James Barker. To be Captains:—Sidney Harris Cox Martin, Bilton Pollard, Walter Essex Wynter, James Ernest Lane, Arthur Francis Voelcker, John Bland-Sutton, Henry Albert Caley, Raymond Johnson, James Samuel Risien Russell, John Murray, Frank Joseph Wethered, Horace Stansfield Collier, Harold Batty Shaw, Thomas Herbert Kellock, Frederick John Poynton, Vincent Warren Low, Wilfrid Harris, William Sampson Handley, Sir John Francis Harpin Broadbent, Bart., and Rupert Thomas Hampden Bucknall.

4th London General Hospital: The undermentioned to be officers whose services will be available on mobilisation (dated Dec. 2nd, 1908):—To be Lieutenant-Colonels: Francis de Havilland Hall, Albert Boyce Barrow, Nestor Isidore Charles Tirard, and Clinton Thomas Dent. To be Majors: William Murrell, Sir William Watson Cheyne, Bart., C.B., Norman Dalton, George Robertson Turner, Sir Hugh Reeve Beevor, Bart., Stanley Boyd, Richard Grainger Hebb, and Alfred Herbert Tubby. To be Captains: Frederick Walker Mott, Walter George Spencer, William Aldren Turner, Albert Carless, James Galloway, Frederic Francis Burghard, Alfred Milne Gossage, Herbert Furnivall Waterhouse, Cyril Ogle, Frederick Charles Wallis, Raymond Henry Payne Crawfurd, Charles Gibbs, Arthur Latham, William Turner, William Hunter, Francis Jaffrey, William Cecil Bosanquet, Arthur Henry Evans, James Stansfield Collier, and Herbert Stringfellow Pendlebury.

Sanitary Service: George Reid to be Major (dated August 10th, 1908).

VOLUNTEER CORPS.

Royal Garrison Artillery: 1st Devonshire: Surgeon-Lieutenant Arthur Goulston resigns his commission (dated April 1st, 1908). 1st Warwickshire: Surgeon-Captain George Haddow resigns his commission (dated March 31st, 1908).

Rifle: 1st (Pembrokeshire) Volunteer Battalion, The Welsh Regiment: Surgeon-Captain Percival A. Lloyd resigns his commission (dated April 1st, 1908).

Consequent on the disbandment of the Army Medical Reserve of Officers, as constituted by the Royal Warrant of 1888, the undermentioned officers cease to be officers therein:—Surgeon-Lieutenant-Colonels: Rowland H. Coombs, George S. Elliston, James K. Anderson, Peter B. Giles, Andrew Clark, William R. Smith, Duncan McFadyen, James Duncan, Thomas Fort, Henry W. King, Walter S. Cheyne, Edward J. Lloyd, Edward Williams, Samuel B. Mason, Robert R. Brown, Charles Arrol, William J. Naismith, D.S.O., Edmond W. Symes, Robert de la Poer Beresford, Robert B. Smith, Edward B. Reckitt, Augustus S. Daly, Alfred Chawner, Edmond J. Lawless, Robert L. Sparrow, Francis J. Walker, Arthur T. Wear, William Ferguson, John Adam, Edwin J. Hunter, Frederick K. Pigott, William M. Roocroft, Alexander D. Fraser, Clement Godson, Andrew A. Watson, Henry W. Roberts, William H. Packer, John J. de Z. Marshall, John P. Massingham, Arthur B. Wade, Frederick W. Gibbon, George M. Lowe, Thomas Philip, Charles N. Lee, James W. T. Gilbert, David Lennox, William Nettle, James Turton, Murdo Mackenzie, James Mill, George Hollies, Charles A. MacMunn, Charles Graham Grant, Thomas McC. Foley, Robert B. Graham, Walter C. James, Charles L. Fraser, Henry C. Lamport, and Joseph Adams. Surgeon-Majors: Andrew A. Abraham, John A. Jones, John W. Ellis, Evan Evans, Thomas F. Dewar, John V. W. Rutherford, Ernest W. Barnes, William A. Dingle, William B. Mackay, Andrew P. Arnold, Robert Stirling, William O. Evans, Richard J. Bryden, Richard R. Sleman, Philip B. Bentlif, Robert T. Meadows, Frederick V. Adams, Edward H. Moore, Richard J. M. Coffin, Stanley S. Hoyland, William Kinnear, Hugh R. Bramwell, James A. Rigby, Josiah T. Thomas, William L. Edwards, Henry J. Mackay, David Todd, Henry D. Brook, James H. G. Whiteford, William P. Whitcombe, Walter A. Atkinson, Robert Mitchell, Thomas E. Stuart, William B. Cockill, Casper R. Laurie, Henry T. Challis, Hugh Dickie, Atwood Thorne, Sydney A. M. Copeman, John H. Stacy, John M. Moir, Alexander B. Lyon, Campbell Boyd, James A. Clark, Thomas Holt, Robert E. Beveridge, John S. Mackay, Eustace M. Callender, James P. S. Ward, Robert T. Ferguson, Arthur L. Jones, Samuel J. J. Kirby, Arthur P. Nuttall, Arthur D. Ducat, Charles G. Maclagan, Arthur H. Vernon, David Smart, Bonner H. Mumby, William Richardson, Edgar W. Livesey, Lewis W. Pockett, George Melville, James Cameron, Richard H. Luce, William P. Peake, George G. Oakley, and William K. Clayton. Surgeon-Captains: Francis H. Thompson, Harry L. de Legh, John H. P. Graham, James P. Brown, Conrad T. Green, Henry Waite, Thomas Thompson, Thomas Kay, William H. Vickery, Cecil A. Corke, James Taylor, John C. Wright, David R. Dobie, Edmond U. F. MacW. Bourke, Albert Henderson, Edmund E. Dyer, James S. Swain, Harry M. Brownfield, Hugh N. A. Taylor, Albert Ehrmann, Albert Hilton, Edward Gray, Francis A. Brooks, Neish P. Watt, Claud W. Marshall, Wilfred Curtis, George F. Whyte,

Alexander A. MacKeith, Frederick D. Woolley, George R. Livingstone, Vyner Graham, Samuel M. Sloan, Herbert E. Dalby, John R. Williams, Arthur R. Badger, James Bruce, Thomas Beard, Hugh W. Thomson, William J. Reid, Charles R. Browne, William R. Matthews, Frederick H. Gervis, George Thomson, William Ritchie, Ernest H. Tipper, Algernon E. L. Wear, Francis E. Fremantle, Leonard A. Avery, Montague S. W. Gunning, James N. Macmullan, Robert A. Draper, Reginald C. Gayer, Harry Stallard, Alan Y. Greenwood, Alexander MacKenzie, James C. Herbertson, Henry G. Smeeth, Paul J. O'Sullivan, James S. Warrack, Frederick E. Bissell, Hubert R. R. Fowler, and Surgeon-Lieutenant Herbert Meggitt.

UNITED STATES ARMY MEDICAL RESERVE.

The *Times* New York correspondent on Dec. 1st states:—"From an exclusive source it is learned that the leading surgeons in the United States have been formed into a medical reserve corps. ..... President Roosevelt has sent commissions as first lieutenants to numbers of the country's most famous doctors. ....."

Correspondence.

"Audi alteram partem."

THE DIFFICULTY OF DEALING WITH CASES OF SENILE INSANITY: WHERE ARE THEY TO BE ACCOMMODATED?

To the Editor of THE LANCET.

SIR,—In the recent report of the Royal Commission on the Care and Control of the Feeble Minded reference is made to the evidence given by some of the members and officials of the Metropolitan Asylums Board and London County Council that many cases of senile decay are unnecessarily certified as imbeciles and sent to their institutions from the metropolitan workhouses and infirmaries. The report has recently been considered by the Infirmary Medical Superintendents' Society and the members of it feel that it is a matter of regret that no opportunity was given to the medical officers of infirmaries or workhouses to rebut these accusations and to put the position of affairs from their point of view. The society feels that the Commission has been misled and that, if the members of the society had been requested to submit evidence, they would have been able to place before the Commission facts which throw a very different light on the problem of these cases of senile insanity.

The evidence to which the society takes the strongest exception is that of Mr. J. T. Helby, the chairman of the Metropolitan Asylums Board. He is quoted as having said: "The Boards of Guardians appear to send all the senile decay people to us certifying them as imbeciles—a most cruel thing. Our Tooting Bec Asylum is practically nearly full of what are termed imbeciles of that character—nothing less than old men and women suffering from senile decay. In my opinion the proper place for this class of patient would be an infirm ward in the workhouse infirmary where the relatives could visit them." Mr. Helby does not seem to realise that his statement is as grave an accusation against the Metropolitan Asylums Board and its officials as it is against the members and officials of boards of guardians, since it implies that not only are patients being sent to these asylums illegally but that they are also being detained there illegally. If these patients are not insane then they should not be detained but should be returned to the guardians as recovered or as improperly certified. Since this is not done it is to be presumed that, despite Mr. Helby's statement, these cases *are* proper subjects for certification and detention and the only point then in dispute is where they should be detained.

Now these cases of senile insanity are demented and frequently noisy and restless. They disturb and terrify the other old people by their incoherent chattering and by their frequent attacks of screaming and vituperation. At night they are especially troublesome owing to their noisy talking and restlessness. They wander about the ward and often frighten the other inmates by trying to get into their beds. This and their unclean habits, resulting from their demented condition, render them an offence and a most serious source of distress to the other aged sane inmates of the workhouse, and still more so to the sick in an infirmary ward. It is obvious, indeed, that it is impossible to retain such cases in the ordinary wards of a workhouse or infirmary. It is, in fact, illegal to detain them unless separate accommodation from the sane inmates has been provided. Such separate accommodation has not been provided in the workhouses and the reason lies in the existence of the Metropolitan Asylums Board.

Amongst the duties allotted to this Board at its formation were the reception and relief of such insane paupers of the chronic or imbecile class as could be lawfully retained in a workhouse. This definition obviously includes the cases of senile insanity above described, but the only accommodation the Board has provided for them are the asylums at Tooting Bec, Leavesden, and Caterham. The distance of these asylums from many parts of London is undoubtedly a source of great inconvenience to many of the patients' friends, but for this the Metropolitan Asylums Board must take the blame. Instead of providing the simple accommodation that was required in numerous small buildings in different parts of London the Board preferred to erect, at an enormous cost, Tooting Bec Asylum, a palatial institution entirely wasted upon the chronic and imbecile patients for whom it was intended. Thus the whole difficulty of dealing with these patients and the hardship undoubtedly inflicted upon their friends have arisen entirely from the failure of the Metropolitan Asylums Board to provide proper accommodation for the detention of these cases. It would have been far better that the duty of providing the necessary accommodation had been left to individual boards of guardians who would have built then, no doubt, proper wards in the workhouses and infirmaries and provided an adequate staff for them. But it is curious to find the Board, whose duty it is to provide proper accommodation for these cases, attacking the guardians and their officials for sending the very cases for whom it is their duty to provide. Even as it is, only the most troublesome of these cases are sent to Tooting Bec Asylum. Many of them are treated in the observation wards of the workhouse during their acute outbreaks and returned to the general wards when the outbreak has subsided. This is shown by statistics obtained from 14 infirmaries. During 1907 118 cases of insanity were sent to Tooting Bec Asylum from these infirmaries, whilst 294 cases were retained and treated in their observation wards. When one remembers the number of inmates over 70 in the infirmaries and workhouses of London it is really astonishing to find that out of the 832 admissions to Tooting Bec Asylum in 1907 only 213 were over 70 years of age. There can be no doubt that much of the pressure on the accommodation of the Metropolitan Asylums Board for senile and infirm cases is due to the increasing age and infirmity of patients who were admitted to the Board's asylums when able-bodied.

With regard to the similar complaint made on behalf of the London County Council by Sir John MacDougall, two facts must be borne in mind which lead to many senile cases being sent to the county asylums. One is that the asylums of the Metropolitan Asylums Board refuse to admit a case if there is or has been the slightest suggestion that the patient is suicidal or dangerous to others. The other fact is that in many of the infirmaries the certifying justice does not call in the medical officer of the infirmary to examine the cases of alleged lunacy brought to and detained in the infirmary. The result is undoubtedly that many cases are sent to the county asylums which the medical officer would send to the asylums of the Metropolitan Asylums Board or detain in the workhouse for treatment.

One statement of Sir John MacDougall shows that he is not fully acquainted with the law bearing on the detention of lunatics. He is quoted as having said, referring to these old people, "There is a number of patients now certified that need not be certified." The answer to that is, if these cases are not insane, then, they ought to be discharged from the asylums, but if they are insane, then, it is illegal to detain them either in the workhouse or asylum unless they are certified. Sir John MacDougall's assertion that these cases are suitable for treatment in the workhouse shows that he is not aware that the workhouses do not possess proper accommodation for their treatment owing to the fact that the boards of guardians have relied upon the statutory obligation of the

Metropolitan Asylums Board to provide the accommodation for them. His statements are indeed not upheld by the investigations made by the Lunacy Commissioners on this very point in 1905. In that year the medical superintendents of county asylums were asked to report to the Lunacy Commissioners the number of senile cases in their asylums they thought could be suitably cared for in the workhouses. Two superintendents of London county asylums are quoted as answering the question. One, Dr. R. Jones of Claybury, replied that *all* the cases sent there could only be fitly treated in an asylum where there was a large and competent staff. Dr. W. J. Seward of Colney Hatch said that 32 of the 49 sent there might have been treated in a *special* ward of a workhouse infirmary, but it was doubtful if *any* could have been suitably cared for in an ordinary infirmary ward.

The Infirmary Medical Superintendents' Society feels that the public should know the difficulties which arise in practice in dealing with these senile cases owing to the want of provision of proper accommodation for them. It feels, also, that the only satisfactory solution will be for individual boards of guardians to provide the special accommodation required in the workhouse or infirmary and to arrange for the certification of all alleged lunatics admitted to the workhouse to be placed in the hands of the medical officer who alone is in a position to sift the cases properly and decide which should go to the county asylums and which should be detained in special wards in the workhouse or in the workhouse asylums of the Metropolitan Asylums Board.

I am, Sir, yours faithfully,

C. T. PARSONS,
Honorary Secretary, Infirmary Medical Superintendents' Society.

Fulham Infirmary, Hammersmith, W., Nov. 30th, 1908.

RECENT OUTBREAKS OF PLAGUE IN LIVERPOOL AND GLASGOW.

To the Editor of THE LANCET.

SIR,—It is the common fate of the medical man who first suggests the probability of plague in a community to be voted a public nuisance who ought to be chloroformed beyond the final stage of safe anæsthesia, for plague means so much to the mercantile and maritime interests of the city or town in which it may appear. In spite of this fate staring me in the face I submit that the chief aim of a physician ought to be the preservation of the health of a community and its wealth ought to be to him a secondary consideration. As a matter of fact, the one is bound up with the other, for in protecting and conserving the health of the citizen we are ultimately protecting and conserving his mercantile and maritime interests. If the infection in the recent three cases in Liverpool had been traced to a vessel that had arrived in the Mersey from a port in which plague was at present prevalent this letter would not have been written, but as the barge on which the first patient sickened did not go beyond the limits of the Mersey and was solely engaged in coaling coasting vessels, I would suggest that the origin of the infection should be sought within the gates of the city as well as at its portals, and every medical man as well as the port sanitary authorities should be on the alert for plague. In support of my suggestion let me briefly emphasise the connecting links between the five outbreaks of plague in Glasgow and Liverpool during the past eight years.

In August, 1900, plague appeared in Glasgow for the first time in Great Britain for 235 years. It was of the bubonic type with a low power of infectivity, for although it was at least three weeks in the city, and probably much longer, before its true nature was suspected or even dreamt of, and during that time 800,000 inhabitants exposed to infection, yet there were only 36 known cases traced with 16 deaths. The origin of the outbreak was never discovered. The second outbreak was in August of the following year, with two known cases in the original plague-infected area, and two months later there were six cases discovered in a city hotel. It was in this second outbreak that I came across a case which was no doubt plague. In THE LANCET of Nov. 30th, 1907, I fully described this case and offered strong presumptive evidence that it infected Liverpool by means of "contacts" who carried the infection in their clothes and caused an outbreak of plague in that city in September, 1901, in which there were eight cases with six deaths. The third outbreak of plague in Glasgow was last year and again in August. There were two known cases in the plague-infected area of 1900. In my opinion there were more cases, but I do not wish to mention in this letter any disputed cases. One significant fact is worth noting. Last year, for the first time in the three outbreaks, infected rats were detected and the disquieting fact was that they were found in Kinning Park, which is on the same side of the Clyde but fully a mile from the plague-infected area of 1900. These rats were accidentally discovered by giving rise to an offensive smell. They numbered 51 and had probably died at the same time. Only one of them was fit for bacteriological examination and Dr. R. M. Buchanan, the city bacteriologist, reported[1] that the bacillus pestis was found. A subculture proved virulent for a healthy mouse and a healthy rat within 48 and 72 hours respectively. Dr. Buchanan adds: "In view of the absence of any other probable cause of death of these rats it must be presumed that the others had also succumbed to plague." Finally, we have the second outbreak of plague in Liverpool and again in the autumn.

The first striking fact to be noted in these five outbreaks is their appearance at the same season of the year. Professor Simpson in his classical treatise on plague states that the season of the year has a powerful influence on plague, so powerful that he quotes Hodge's "Loimologia" that in the Great Plague in London in 1665, after the plague season was over, which was from August to November, the people returned to the deserted plague houses and even slept in beds where plague patients had died without contracting the disease. It is a most remarkable fact that these five outbreaks of plague in Great Britain from 1900 to 1908 should be exactly at the same season of the year as the London epidemics of 1603, 1605, 1625, 1636, and 1665. Hence I would suggest the following relationship between each of the five outbreaks. The infection in the first outbreak in Glasgow in 1900 was no doubt imported into the city either by a human carrier of the disease or by infected material, more probably the latter, at a season of the year most favourable to the development and activity of the bacillus pestis. There is not the shadow of a doubt that the other two outbreaks resulted from the first one and were not fresh importations into the city. They were a positive proof that the bacillus pestis, as in all modern outbreaks, had never left the city since 1900 in spite of all that was done to destroy it. The infection in the first outbreak of plague in Liverpool in 1901 was most probably brought into that city from Glasgow, as I have already described, by infected clothing, and in the absence of proof to the contrary I would now suggest that the infection in the recent three cases of plague in Liverpool is not a fresh importation but is related in some way with the appearance of plague in Liverpool in 1901.

I am no alarmist, so I do not look upon every patient with a bubo or with enlarged axillary and inguinal glands as a case of plague. Last year I examined fully 1000 patients of all ages and with all sorts of ailments and I was surprised to find how commonly the axillary and inguinal glands were palpably and painlessly enlarged, varying from the size of a pea to that of a bean in cases in which there was not the slightest reason for suspecting plague. The best corrective of medical bias is undoubtedly the practical experience of an extensive general practice. But we must face facts as we find them, and whilst I do not anticipate any more cases of true plague to appear in Liverpool or Glasgow this year I am convinced that true plague will appear in both cities again, especially from the beginning of August till the end of November. Hence all medical men in these cities should be specially on the alert, for unless they examine the axillary and inguinal and femoral regions in all atypical cases of illness they will certainly miss plague, for Prof. Simpson tells us that plague may simulate any disease and has been diagnosed as influenza, pneumonia, septicæmia, typhus, typhoid, relapsing fever, meningitis, diphtheria, syphilis, gonorrhœa, appendicitis, typhlitis, malaria, and filariasis with enlarged glands. All modern outbreaks of plague point to the fact that it clings most tenaciously to any place it infects and it has most marvellous powers of recrudescence and resistance to all known methods of disinfection and prevention. Plague may be so mild that we can toy with it, but we should never forget that we do not know when these mild forms, with low powers of infectivity, may develop into the virulent septicæmic and pneumonic forms with a high power of infectivity and that

[1] Local Government Board Report for Scotland, 1907.

sporadic and mild cases are often the precursors of an alarming epidemic.

I am, Sir, yours faithfully,

Glasgow, Nov. 30th, 1908. THOMAS COLVIN.

THE STERILISATION OF POTABLE WATERS BY MEANS OF CALCIUM HYPOCHLORITE.

To the Editor of THE LANCET.

SIR,—I read with interest Dr. J. C. Thresh's article under this heading in your last issue, because it serves to corroborate the value of a method of sterilising water which was devised by Captain V. B. Nesfield, I.M.S., some six years ago and which has found very practical application in India. As it is obvious from Dr. Thresh's paper that Captain Nesfield's work is unknown to him, it will be useful to give a brief description of it, extracted from Captain (then Lieutenant) Nesfield's article, entitled "A Chemical Method of Sterilising Water without affecting its Potability," which was published in *Public Health* in July, 1903.

The method is based upon an extensive series of experiments made with bacillus coli, bacillus typhosus, and Shiga's bacillus of dysentery, and the sterilising agent employed is chlorine. The experiments were conducted in the bacteriological laboratories of St. Mary's Hospital. Each experiment was made with one litre of tap water into which had been poured 10 cubic centimetres of a 24, or 48, or 64 hour old broth culture of one of these organisms. Nesfield found that 0·125 gramme of chlorine per infected litre was invariably sufficient to sterilise it in five minutes. The water was dechlorinated subsequently with sodium sulphite in accordance with the formula—

$$Cl_2+H_2O+Na_2SO_3=Na_2SO_4+2HCl,$$

the hydrochloric acid formed being neutralised by the alkali present in commercial sodium sulphite.

The chlorine was first obtained from the liquid gas stored in lead-lined iron cylinders, such as might be used to sterilise supplies in military water-carts. Nesfield then set to work to devise a tablet which could be used to evolve small quantities of nascent chlorine for the use of individuals. For this purpose he found that 1½ grains of bleaching powder mixed thoroughly with ½ grain of sodium bicarbonate would sterilise a pint of water teeming with typhoid or coli bacilli in five minutes. At the end of this time ½ grain of sodium sulphite rendered it free from chlorine and practically tasteless. The bicarbonate was added to keep the tablet dry and because the CO_2 contained in it acts sufficiently strongly as an acid radicle to liberate the very feebly combined chlorine from bleaching powder (chlorinated lime).

This method has proved successful in the presence of organic matter and Nesfield's sterilising tablets are now widely used by troops and travellers in India. Indeed, the Lieutenant-Governor of Agra and Oudh, in his interesting address on Sanitation in India which you published recently, cited them as one of the causes of the decline in the death-rate from cholera in his provinces.[1] Captain Nesfield devised his method especially for the prevention of water-borne disease amongst troops on active service. It is a remarkable tribute to its value that a practically similar process is now suggested as a means of purifying normal water-supplies.

I am, Sir, yours faithfully,

W. H. WILLCOX, M.D., B.Sc. Lond., F.I.C., D.P.H.,
Lecturer on Public Health to St. Mary's Hospital, W.

Queen Anne-street, W., Nov. 30th, 1908.

HEREDITY WITH SPECIAL REFERENCE TO CANCER, TUBERCULOSIS, AND DISEASE OF THE NERVOUS SYSTEM.

To the Editor of THE LANCET.

SIR,—In the last number of THE LANCET appears what purports to be a speech made by me at the Royal Society of Medicine. This report is inaccurate in many particulars. Words are put into my mouth which not only on this occasion but which on no occasion in my life have I ever used, thus showing that my speech was not only inaccurately reported but actually modified by some one with a totally different vocabulary before publication. I never said, as I am made to say, "that all would agree with Dr. Mercier's remarks concerning mutations." What I did say was "that *not* all would agree with Dr. Mercier's remarks, &c." I never said that my own view was "that there was no truth in Mendelism at all"; what I did say was "that so far the truth of Mendelism has not been *demonstrated* for any one character," and I asked on this very ground for the further collection of facts. I did not say that if the hypothesis of the inheritance of acquired characters were accepted, then I "feared Mendelism of every form collapsed"; what I did say was that if this hypothesis were accepted, then I "feared Mendelism and every theory hitherto proposed of heredity collapsed."

I might cite many other instances in which my statements have been given no meaning or a meaning opposite to that actually expressed by me, but the above will suffice to show why I feel compelled to repudiate entirely this account as representing what I said. It differs very materially from the report I have just received from the Royal Society of Medicine, and I would ask any one who is at all interested in my views to await before criticism the publication of that report.

I am, Sir, yours faithfully,

KARL PEARSON.

University College, Gower-street, London, W.C., Nov. 28th, 1908.

*** Alas, where great condensations of technical speeches have to be made some speakers must find the reports "inaccurate in many particulars." For the omission of the "not" we apologise sincerely, but the suggestion that it was omitted for the purpose by ourselves or that we modified the report in any way after receiving it from the reporter's hands should not have been made. We join in asking anyone who is at all interested in Professor Pearson's views to await the publication of the report to be published by the Royal Society of Medicine, when time and space will allow of a fuller rendering of the speaker's words and where, it seems, Professor Pearson will be able to revise the proofs.—ED. L.

To the Editor of THE LANCET.

SIR,—Dr. Arthur Latham concludes his article on the Influence of Heredity upon Tuberculosis in THE LANCET of Nov. 21st, p. 1512, with seven conclusions. The first and final ones are very contrary to my acquaintance with the hereditary influence of laryngeal tuberculosis. The two conclusions are: "1. The hereditary transmission of the germ is so infrequent that it is a negligible factor. ..... 7. The theory that there is an inherited predisposition to tuberculosis is based on insufficient evidence." When I was in practice at Canterbury I looked after three sons of a clergyman who all died with laryngeal phthisis. There was one son I did not see who, I was positively sure, had throat consumption. There were two daughters of this family who were in good health all the time I knew them. The mother had died, it was told me, from laryngeal phthisis. The father lived to nearly 80 years of age. My diagnosis of the three cases I saw may be taken as correct, as for some years I was, before going to Canterbury, surgeon to a throat hospital in London.

I am, Sir, yours faithfully,

Broadstone, Nov. 25th, 1908. PUGIN THORNTON.

DIVISION OF THE AUDITORY NERVE FOR PAINFUL TINNITUS.

To the Editor of THE LANCET.

SIR,—I am much indebted to Dr. W. Milligan for his letter which appeared in THE LANCET of Nov. 14th, p. 1477, reporting two cases in which he divided the auditory nerve. My paper was written from the neurological and physiological points of view. I did not discuss the surgical advantages of the various operations which have been performed on the auditory nerve because the data before us are as yet quite inadequate to form a judgment of any value. Till further experience has been gained we can only say that probably in some cases the spiral ganglion of Corti or the part of the labyrinth innervated from the ganglion of Scarpa

[1] THE LANCET, Oct. 24th, 1908, p. 1209.

or both should be destroyed, while in others the trunk of the auditory nerve should be divided.

I am, Sir, yours faithfully,

Dec. 1st, 1908. CHARLES A. BALLANCE.

STANDARDISATION OF DISINFECTANTS.

To the Editor of THE LANCET.

SIR,—Many manufacturers of disinfectants are to-day seriously inconvenienced by the absence of an authoritatively determined and fixed or "standard" method of conducting bacteriological tests for disinfectants. We, like most of our competitors, are anxious that some standard should be authoritatively set forward, and suggest that a committee appointed by the British Medical Association, the Royal College of Surgeons, or the Royal Society would be suitable for such a task, and we hope for your assistance in making this demand.

In your issue of Sept. 19th, p. 902, a letter appeared in your columns upon this subject from Messrs. Rideal and Walker, the joint authors of what is known as the "Rideal-Walker" method (of bacteriological test for disinfectants), and this letter introduced a new and important condition into that method, thereby constituting a serious modification of the method. As this condition had not hitherto been embodied in the test our preparations up to that time had not, of course, been tested under this condition, but we at once took steps to insure that our product should have a guaranteed coefficient of 17 or over when tested by the newer Rideal-Walker method, involving the new conditions insisted upon by Messrs. Rideal and Walker. In the meantime, however, we suffered from comparison on account of Messrs. Jeyes (of whom Mr. Ainslie Walker is managing director) publishing a test of our fluid according to the new method showing a lower coefficient than that guaranteed by us. They examined our old fluid by the new test and endeavoured to make the public infer that we did not keep our product up to our guaranteed efficiency. We have pointed this out to them and shall take legal steps to defend our reputation if necessary.

We have, however, said enough to show that the matter is one vitally affecting the interests of manufacturers and we beg your support in asking for an authoritative determination of a standard method for testing the bacteriological efficiency of a disinfectant. We feel sure that Messrs. Jeyes' Sanitary Compounds, Limited, and other manufacturers, will be as ready as we are to have such a standard fixed by an impartial expert authority. We may add that we are prepared to subscribe equally with any fellow manufacturers of disinfectants towards the expense of such investigations and determinations and only ask that the body appointed should be absolutely impartial and that it should not contain any members interested directly or indirectly in any particular disinfectant. We are certain that your advocacy of our proposal will meet with the grateful appreciation of both manufacturers and health authorities.

We are, Sir, yours faithfully,

Dec 1st, 1908. MCDOUGALL BROS.

*** Sanitarians, and medical men generally, recognise the need for a standard method of conducting bacteriological tests for disinfectants. Such a test should clearly be only alterable after proper investigation by an impartial and expert authority.—ED. L.

"THE HUMAN WOMAN.'

To the Editor of THE LANCET.

SIR,—The authoress of this work will, I hope, reply to the arguments of THE LANCET. I, as a medical woman, wish to make a few remarks from the medical standpoint. Trotula and her compeers did not hand down an uninterrupted chain of noted medical women to the present day, for the chain was broken when women ceased "to enjoy equal chances with men." The causes of this change are a matter of history, warfare being one of the chief causes. The writer looks forward to statistics of the achievements of medical women 50 years hence. He assumes that women are "entering the lists on equal terms with men as regards education." I disagree. In London the women study at one general hospital only, and that one of the smallest. After qualification comes one of the most important times for medical education—viz., the holding of residential hospital posts. These are not open at any of the large hospitals, not even in Newcastle, where the students have co-education. Two such posts are open at the Women's Hospital in London. Other posts held by women are mainly as officers of infirmaries where the excessive work allows of little or no individual study of cases. Moreover, the large majority of medical women are thus obliged to go to London for experience. Here, again, the large hospitals and their undermanning are sufficient to prevent true research work. So that I fear that unless medical education is really put on a similar footing for men and women and opportunities for scientific research are given to women under our best leaders and in our best pathology and bacteriology laboratories the contribution of women to medical science 50 years hence will still be extremely small.

The idea of the "new chivalry" is the one I uphold. Let the boards of men who appoint a woman as officer to their institution give her a salary fitted to her position, not appoint a junior man with a higher salary to work with her, and force her to retire from the unequal competition or from force of circumstances to hold on against her professional honour and accept the degradation. As to the physical disabilities, I think certainly that married women during their child-bearing period would be incapable of personal attendance at assemblies provided she gave the child the nutriment so necessary to its welfare, and such women could never fill a Cabinet Minister's position. But there are many years when a married woman could fulfil the duties of an ordinary Member. One of our best-known women surgeons is still enjoying a distinguished career and her son and daughter are in the same profession.

Such women as suffer from a physical incapability of such intensity as to prostrate them for a few hours or days would also be prevented from the very highest executive duties, but again I maintain for the lesser duties of a Member of Parliament she would be fitted. The statistics on such cases compared with those of monthly absentees for from one to three days of Members of Parliament for asthma, toothache, migraine, or excellent dinners would be of great interest. The first set of statistics are now being collected by a member of the Registered Medical Women's Association and should shortly be published. I am, and I think most women are, of complete agreement with the idea that "marriage is the best thing that can happen to her." I would add, however, this qualifying clause. The man must be a "human man" or the cultured class of women who, if any, will take on the executive will go unmated and in full career to the end. THE LANCET article has, I think, given a handle to the people of England to say, "Ah, you see THE LANCET says women are physically unfitted," but I imagine THE LANCET would not express an adverse opinion to women holding the power of voting for a representative in Parliament. This representative need not of necessity, as THE LANCET seems to assume, be a woman. This is the political reform for which women are now pressing.

I am, Sir, yours faithfully,

Nov. 23rd, 1908. M. F. T.

THE NEW LUNATIC ASYLUM AND MENTAL SANATORIUM "AM STEINHOF" IN VIENNA.

(FROM OUR VIENNA CORRESPONDENT.)

THE latest addition to the charitable institutions provided by Lower Austria for its mentally affected people is the new institution called "Am Steinhof," which has the reputation of being the most modern, best-equipped, and largest institution of this kind in the world. The asylum comprises 60 separate pavilions and consists of three well-separated sets of buildings, the asylum, the sanatorium, and the administrative wing and nurses' quarters. A commanding view is obtained from all the front windows, as the institute lies on the south-western slope of the Satzberg, one of the hills on the outskirts of the city, about 950 feet above sea level and 300 feet above the average level of Vienna. The direction of the winds is in this part mostly south or south-east, and they bring with them a limitless supply of fresh air from the Alps, which can be seen distinctly from all parts of the

asylum and sanatorium. The initiative for the erection of the magnificent asylum was afforded by a group of indefatigable medical men and laymen. When the necessity of building also a new general hospital in Vienna became clear it was decided to use for this purpose the extensive grounds encircling the old lunatic asylum, situated a few hundred yards away from the hospital and to spare no expense in erecting a modern asylum on better grounds. The committee took for its motto, "The best is just good enough for our unhappy wards," and both architect and physicians have interpreted it in a liberal spirit.

The asylum estate comprises an area of about 1,900,000 square yards. One-third of these grounds is reserved for future extensions of the buildings, whilst the remaining 1,200,000 square yards are covered by houses and gardens and streets, for the institution forms a veritable town. A wall and railings, three English miles long, encircle the estate. The soil consists of clay and the sub-soil of marlstone and limestone and the climatic conditions are no less favourable. The pavilions forming the asylum proper are in the middle of the grounds, the sanatorium buildings are on the east side of it, and the administrative buildings on the west side. The asylum has 33 pavilions arranged in four parallel rows, the distance between the pavilions being from 40 to 60 yards, whilst the streets resulting from the arrangement of buildings in rows are from 70 to 85 yards broad. The male and female patients are accommodated in separate blocks on each side of the central buildings which comprise the chapel, social hall, kitchens, and an administrative building. The blocks for curable patients in the asylum consist of two bungalow pavilions with 40 beds in each, five two-storeyed pavilions with 70 beds apiece for patients generally quiet, four two-storeyed houses with 60 beds each for noisy patients, and two three-storeyed buildings each having 100 beds for quiet patients, making altogether 870 beds. The blocks for the incurable inmates consist of four two-storeyed houses, each containing 100 beds, two similar pavilions for refractory patients and cripples with 100 beds each, and two three-storeyed houses with 100 beds each for quiet patients. There are besides two pavilions for tuberculous patients, with 24 beds each, in two-storeyed houses; these contain, also, isolation wards for infectious diseases, with six beds for men and six for women. Quite separated from these pavilions is another with accommodation for 40 patients of the troublesome-dangerous type. 86 patients can be housed in the farmhouses attached to the asylum. They are employed in farmwork with excellent result. The sanatorium is intended for nervous or mentally affected patients of the better classes. They have to pay 10 or 20 crowns (9*s.* to 18*s.*) per day. The equipment is, of course, more luxurious; there are a pavilion for entertainments, a concert hall, and a library, but there are also pavilions for unruly patients or patients with dirty habits; altogether 356 beds in 13 pavilions. The number of beds at present at disposal in the whole institute is 2200, but arrangements have been made which would enable another 800 beds to be placed in the wards at a day's notice, still leaving ample space. Thus 3000 inmates can be accommodated in a very satisfactory manner. Each pavilion is surrounded by a garden and has attached to it rooms for attendants and nurses, quite separated from the wards. The gardens for troublesome or noisy patients are inclosed by a wall 9 feet in height; the semi-quiet patients have gardens with a low rail around them; and the quiet patients are trusted in open gardens. In the sanatorium are all appliances for hydro-electro-therapy, gymnastics, and a cold and warm swimming bath. Air baths and sun baths are also provided for.

A few words must be said about the buildings situated in the central avenue of the asylum. There are four pavilions there. The first one contains the offices and the quarters of the directors and the receiving room for new patients. The next one behind the first named is a large hall for concerts, lectures, receptions, and other indoor amusements. The musical entertainments and indoor games which are held by the patients for the patients are a very successful innovation much appreciated by the afflicted inmates. Behind this building a large kitchen has been installed in its own pavilion. There are 19 large steam kettles of 1900 gallons capacity; open fireplaces and baking ovens are heated by gas, otherwise all the machinery is driven by electricity. A large pantry with spacious storerooms is provided for in the cellar. A refrigerator plant, together with a special ice and soda-water factory, are situated at the wings of this kitchen pavilion which is one of the best equipped, most up-to-date buildings in the institute. The food for 3000 persons is prepared here and distributed in "thermos" vessels to all the 60 pavilions. These "thermos" vessels are constructed with a view to prevent the cooling of the food during the transport which sometimes lasts from 25 to 30 minutes by tram. Behind this pavilion and raised above all other buildings is a large chapel, with an enormous cupola of gilt brass, towering over the mass of buildings and visible many miles into the country. The chapel will seat 1000 persons and service is held there every morning.

Two other features of the asylum must be mentioned. A very important installation is the disinfecting plant, capable of holding 15 cubic metres at a time. It is situated in the administration wing and is worked by steam under pressure of from 12 to 15 atmospheres. If necessary, formaldehyde gas can be used also. The operating theatre is also located away from the patients' pavilions, not far from the church. The laundry can deal with the linen for 3000 persons within 24 hours; all work is done by steam and part of the necessary heat is obtained by the burning of refuse and waste in a special combustion plant. At the farthest end of the institute a pathological laboratory, together with the mortuary and mortuary chapel, have been erected. The area covered by buildings is 75,000 square yards, the rest of the estate being laid down in park, gardens, streets, and orchards. A system of electric trams allows of a swift communication between all pavilions, and 248 telephones connect the physicians and attendants with all the 518 wards and with the offices. There are 216 rooms containing one bed only, 63 rooms with two beds, 31 with three beds, and so on, or in relative proportion. The cubic volume of air allowed per bed is from 40 to 70 cubic yards in the asylum and from 70 to 140 cubic yards in the sanatorium. The windows are equal to from one-sixth to one-third of the surface of the floor. In every floor of the patients' pavilions are a bathroom, built with three or five baths, and a visiting room for friends of the patients. A medical officer's room is also fitted in every pavilion, with all necessary outfit for examination and treatment. Water-closets, with noiseless flush, are fitted in the wards for dangerous or noisy patients, otherwise they are in the corridors. In the pavilions for noisy patients there are altogether 56 side rooms for occasional outbreaks of violence; these measure 15 by 9 feet, and have a xylolith covering on the walls and doubly fastened doors. Most of the troublesome patients are housed in the special pavilion mentioned above. The floor consists of stone slabs covered by linoleum in the wards, of "terrazzo" slabs in the kitchen and baths, and of wood in the entertainment halls, visiting rooms, and staff quarters. The drainage system is in connexion with the main drains of the city. The length of the drainpipes is 8 miles; these can be flushed easily from a reservoir holding 100 cubic yards.

The question of heating 60 pavilions offered many difficulties; it was finally decided to decentralise the heating. Each building has either its own low-pressure steam-heating system, or iron stoves or tile stoves. The latter method has been adopted in all private rooms and localities not occupied by patients. All ovens and all machinery chimneys are fitted with smoke-consuming appliances. Ventilation of the rooms and wards is obtained by ventilators attached to the north corner of the ceiling and all upper windows can be opened on a horizontal axis. In the noisy pavilions an iron railing is fixed between the inner and outer windows, so that they can be kept open safely in summer time. The buildings are lighted by electricity throughout. Where necessary the lamps are fixed high up on the ceiling. Gas is used for lighting the streets and corridors as well as for heating purposes. A "key system" controls the night guards, so that their rounds are checked adequately.

The hospital staff consists of the Primarius (Director), four chief physicians, and 12 resident medical officers, and the staff of nurses and male attendants consists of 760 persons. More than 100 other persons are engaged in the different household occupations. The following statistics are interesting. The yearly rations for the institute have been estimated at 75,000 pounds of sugar, 1,300,000 pints of milk, 10,000 pounds of butter, 500,000 eggs, 250 tons of meat, besides large quantities of bacon, sausages, and lard. The gardens contain 100,000 trees, 30,000 bushes, and 6,000 fruit trees.

Nearly the whole quantity of vegetables consumed, together with other foodstuffs such as pork and butter, are produced within the institute partly by the agricultural work of the patients. The entire cost of this enormous institute was 20,000,000 crowns, or £850,000, which works out at £280 per bed.

BRISTOL.

(FROM OUR OWN CORRESPONDENT.)

University College, Bristol.

THE annual meeting of governors of University College was held on Nov. 18th, the Right Hon. Henry Hobhouse being in the chair in the absence of the Bishop of Hereford. The adoption of the registrar's report was moved by the Right Hon. Lewis Fry who dwelt on the many evidences of progress afforded by a review of the past year. Amongst others, there was the fact that the number of medical students was 107, the highest figure yet attained. In the formation of two readerships of law might be seen the beginnings of a school of law for the West of England which in a fully developed university might examine for, and grant, degrees. A chair of anthropology had been founded, its first occupant being Dr. John Beddoe, the President of the Anthropological Society. Against this record of progress he had to set a financial deficiency, incurred in spite of a rigid economy in administration. Mr. Fry then turned to the subject of the University movement and referred to the impetus which it had received from Mr. Henry Overton Wills's splendid gift of £100,000. This and further gifts, with support from the city council and other influential bodies, had emboldened the council of the college to apply to His Majesty's Privy Council for a University charter. At his recent visit the King had referred in terms of keenest sympathy to this application. Unhappily the Society of Merchant Venturers had seen fit to object to the petition as presented by University College on the ground that the prestige of its own technical college would be damaged by its inclusion in the University under the conditions suggested. The college council had not yet been able to arrive at a complete understanding with the society; but it had felt that delay was undesirable, so that on the previous day (Nov. 17th) its petition, with the draft charter, had been laid by the Privy Council on the table in both Houses of Parliament.

The University Charter.

An outline of the charter to which I have referred appeared on Nov. 20th in the *Western Daily Press*, which has throughout supported the University scheme with vigour. Provision for the granting of degrees and the holding of examinations is made; in all except entrance examinations there must be at least one external examiner to each subject. Power is to be given for incorporation of University College and the Society of Merchant Venturers is to be asked to provide more especially for the Faculty of Engineering. Then follow provisions for the government of the University. The supreme body is the court, executive and financial control resting with the council. This latter is to include, among others, a chancellor (Mr. H. O. Wills), three pro-chancellors (the Bishop of Hereford, Mr. Lewis Fry, and Lord Winterstoke), and two vice-chancellors (Mr. Henry Hobhouse and Principal Lloyd Morgan). The last named will be *ex-officio* chairman of the Senate.

Coloured Micro-photographs.

To illustrate a paper read by Mr. T. M. Carter at the November meeting of the Bristol Medico-Chirurgical Society on a case of basal hæmorrhage of doubtful nature, Dr. I. Walker Hall showed some lantern slides which were produced by applying the Lumière process to micro-photography.[1] Sections through a blood-vessel were shown at the point of the leak which had given rise to the hæmorrhage. The red colour of connective tissue after treatment with van Gieson's stain was accurately represented, and the elastic lamina of another vessel, picked out by Weigert's stain, was very clearly demonstrated. Other less definitive stains gave indistinct results; but the general effect of the slides on the screen was quite sharp enough to establish the value of this new method of demonstration.

[1] THE LANCET, Nov. 28th, 1908, p. 1604.

Bristol General Hospital.

Dr. E. V. Dunkley, pathologist to the Bristol General Hospital, is resigning a post which he has filled with credit. His place is to be taken by Dr. E. Emrys-Roberts who has been engaged in research and teaching at Liverpool for several years. Dr. Emrys-Roberts will also act as assistant to Dr. Walker Hall, professor of pathology at University College. This is another step in the union between the College and the Bristol hospitals which is gradually taking place to the great advantage of the medical school.

Hospital Sunday Fund at Bristol.

At a meeting of the committee of the Hospital Sunday Fund held at the Guildhall, Bristol, on Nov. 23rd, it was decided that Jan. 31st, 1909, should be observed in Bristol as "Hospital Sunday." It was stated that in 1908 the sum of £1859 was collected and a strong effort is to be made to raise at least £2000 next year. A clerical member of the committee suggested that as only about 15 per cent. of the population attended places of worship something should be done to get the practical help of the other 85 per cent.

Dec. 1st.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

The University.

THE Huxley lecture on Malaria, delivered last week by Professor R. Ross to a large audience, was an interesting exposition which embraced a consideration of the main features of the micro-organisms concerned, the hosts which they infest, the areas in which they are found, and the positions which they choose for breeding-grounds. The lecture opened with a brief historical survey, in which Professor Ross stated that an investigation of Greek and Roman literature had proved that the disease was well known in ancient days; its main types were then clearly defined and its association with marshes was ascertained, but naturally the true cause and the mode of infection did not come within the range of Greek or Roman knowledge. Professor Ross demonstrated by means of statistical tables the widespread character of the disease and he pointed out that though it could not be called a very fatal disease nevertheless it probably killed two or three millions of the inhabitants of India every year. He referred to the difficulties which he had met in trying to get authorities to take the measures necessary for the eradication of the pest and proved by the results obtained in Ismailia that eradication was comparatively cheap and usually quite easy, but it must be admitted that in some cases, as his lantern slides demonstrated, the necessary measures convert charming sylvan spots into uninteresting if more healthy places.

The Dental Hospital.

The annual report of the Birmingham Dental Hospital shows a remarkable growth in the amount of work performed by the hospital staff. As contrasted with the previous year the number of attendances had increased by 1636, the extractions by 2516, the fillings by 1493, and the dressings by 1115. The treatment of the Summer-lane school children being completed in the spring, that of the Bristol-street school was then commenced, and the report of the examination of the children confirmed the result arrived at in Summer-lane, which demonstrated that 69 per cent. of the children attending the council schools have defective teeth. This is a very large proportion and it will be interesting to find if other cities and districts arrive eventually at the same results. It is already evident, however, that either opinions differ as to what constitutes a case of defective teeth or the proportion of defective teeth differs considerably in districts not very far apart, for the result of the medical inspection as carried out in King's Norton gave 71 per cent., that in Smethwick 15·6 per cent., and the result of the examination of 2378 children in Worcestershire gave about 10·6 per cent. of defective teeth.

A Convalescent Hospital for Crippled Children.

The Birmingham and District Crippled Children's Union is making an appeal for funds to establish a satisfactory convalescent hospital for the crippled children of the city district. The Woodlands at Northfield, which Mr. George

Cadbury so generously gave for the purpose, requires extensive alterations and additions before it will be available for its purpose. It is estimated that the provision of the necessary sanitary blocks and general equipment will cost at least £5000. The necessity for the hospital is rendered evident by the fact that the Crippled Children's Union has registered in its books 1000 children, 400 of whom are suffering from tuberculous bone disease, and of the latter 100, who are in the acute stage, are being treated at home under very disadvantageous conditions. There is at present very little hospital accommodation for children suffering from hip and spinal diseases which require prolonged treatment and the committee wishes to increase the facilities for such cases as soon as possible, but the rate of the progress which it will be able to make depends entirely on the support of the public.

Prevention of Cruelty to Children.

Though the prevention of cruelty to children is not directly medical work it results indirectly in an amelioration of the public health. It relieves many children from bodily and mental suffering and it tends to elevate some parents' conceptions of their duties and responsibilities. The society which undertakes the work is therefore in a sense a medical agent, and it is pleasant to note that our Birmingham branch is extending the scope of its work by engaging the interest and services of individuals living in outlying districts. It is also helped by the lady inspectors of health, of whom there are about 17 associated with the health department of the city. These ladies make house-to-house visitations in the districts where the society meets with most of the cases in which it is necessary to interfere, and they are instrumental not only in discovering cases which would otherwise not be brought to light but also in preventing much unnecessary hardship. That the services of the society are very necessary in this district is demonstrated by the annual report of the Birmingham branch which was presented at the annual meeting held in the council house last week. During the year 1179 complaints were made to the branch and of these 1028 proved to be well established and the children affected numbered 3710. In the majority of the cases warnings proved sufficient, in 51 cases the children were placed in better conditions either with relatives or in emigration homes, and 41 people were prosecuted, convictions being obtained in all but two cases. The record is excellent and the small proportion of prosecutions indicates that the society is acting on good lines.

The Dudley Guest Hospital.

The annual report of the Dudley Guest Hospital shows that the bequest of the late Mr. Hugh Lewis's estate has not been an unmixed blessing, for the knowledge of the bequest had apparently caused many people to cease or to reduce their subscriptions, with the result that the yearly income of the hospital has fallen from £4183 in 1907 to £3822 in 1908, that is to the lowest point it has attained since 1905. The number of in-patients treated during the year was 950. The average cost per bed was £64 5*s.*, and the cost per patient £4 9*s.* 4*d.* In the eye department 125 cases were admitted during the year, and the average cost per case was £3 4*s.* The financial result of the year's work is that the adverse balance has been increased to £902; this the committee thinks is a very serious matter and it earnestly appeals to the friends of the hospital for more support.

Dec. 1st.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

Hospitals and Port Sanitary Committee: Sir William Hartley and the Treatment of Tuberculosis.

Mr. John Utting, M.R.C.S. Eng., has been re-elected chairman of the hospitals and port sanitary committee of the city council, and in taking the chair alluded to the efficient measures which were adopted to deal with the recent outbreak of plague in the port. In this matter the committee had not only to safeguard the health and lives of the citizens but also to prevent the dislocation of a world-wide commerce. They were working under the international convention of Paris, and if all the signatories were loyal to the convention the risks would be reduced to a minimum. As to the hospitals, they had now under treatment 983 cases, against about 600 this time last year, and during the year there had been an increase of 1000 cases, due almost entirely to scarlet fever of a mild type. 87 cases of pulmonary tuberculosis had been treated at the Fazakerley hospital. The results were eminently satisfactory, and the medical officer recommended that the beds available for that disease should be increased from 25 to 50. It was important that they should get hold of cases in an early stage. The offer of Sir William Hartley to give £5000 for a fund to assist those dependent on patients undergoing treatment in the early stage was a generous one, and he (the chairman) suggested that they should invite representatives of the health committee and the consumption hospital and Sir William Hartley to a conference on the subject, which, it appears, had already been done.

The Liverpool Milk-supply: Caution to Dairymen.

Dairymen who send tuberculous milk to Liverpool or those who neglect to notify the existence of cows showing signs of infection will in future have their names and addresses printed and published in reports delivered to the members of the city council and available to any ratepayer. The dread of publicity, being far greater than the fear of a monetary penalty, will be an important factor in preserving the purity of the milk-supply.

The New Chancellor of the University of Liverpool.

The annual meeting of the court of governors of the University was held on Nov. 28th in the town hall, the Lord Mayor presiding, when the Earl of Derby was unanimously elected chancellor of the University in the room of the late Earl of Derby, K.G.

Sir Rubert Boyce and the Hairdressers' Association.

A few days ago a large party of the members and friends of the Liverpool Hairdressers' Association were afforded the opportunity of inspecting the various departments of the University. Among the University staff who took charge of the visitors in their tour of inspection were Sir Rubert Boyce, Professor Wilberforce, and Professor Watkinson. Sir Rubert Boyce impressed on the association, as a body of men who were constantly coming in contact with all classes of people, the desirability of knowing something about the origin of particular diseases. He suggested that they should try to obtain a course of lectures at the University which would be useful to them in their business and promised to assist them in every way that he could. Vice-Chancellor Dale, in a letter to the secretary of the association, said he was glad to hear from them that the visit had proved interesting. He also promised to make inquiries as to the feasibility of carrying out Sir Rubert Boyce's suggestion.

Dec. 1st.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Inspection of Meat.

THERE were issued last week by the Local Government Board for Scotland regulations that have been framed under the provisions of the Public Health (Regulations as to Food) Act, 1907. This Act is entitled "An Act to enable Regulations to be made for the Prevention of Danger arising to Public Health from the Importation, Preparation, Storage, and Distribution of Articles of Food." The regulations that have been prepared by the Local Government Board are of two kinds and are entitled "Unsound Food Regulations" and "Foreign Meat Regulations" respectively. The unsound food series deals with articles of food brought by ship to any port in Scotland from any place outwith this country, and have been framed with the object of securing that such articles of food shall be dealt with at the port of discharge. The regulations give the medical officer of health power to examine articles of food on board the ship if he considers it necessary. The procedure to be adopted is much the same as that prescribed in Section 43 of the Public Health (Scotland) Act, 1897, at present in force. If the medical officer of health is of opinion that the article of food is unsound he is given power to seize and to carry it away and to obtain a warrant of condemnation from a sheriff, magistrate, or justice. In

cases where the sheriff is satisfied that the article is not intended for sale for human consumption no order for condemnation is given. Compulsory powers of entry into premises for purposes of examination are given to the medical officer of health, who is also given power to take samples from consignments, while officers of Customs are required to afford facilities for the examination of articles of food by the medical officer of health. In the circular issued with the regulations the Local Government Board emphasises the necessity for the medical officer of health so conducting his examination as to cause as little trouble and inconvenience to traders as possible. The "Foreign Meat Regulations" are designed to deal with meat brought from abroad and will therefore apply more especially to meat imported from New Zealand, the Argentine, and the United States. The definition of meat is very comprehensive and is stated to mean "pork, the flesh of cattle, any other edible part of a pig or of cattle, or a substance, compound, material, or article of which pork or the flesh of cattle, or any other edible part of a pig or of cattle, is an ingredient." The regulations divide foreign meat into four classes. The first class, termed in the regulations "Foreign Meat of Class I.," is designed to deal specially with boneless meat. The trade in this class of meat has grown in recent years and this meat, owing to its cheapness, is much consumed in the poorer districts and among the working classes. It is used chiefly for mincing purposes. The form in which it is imported, however, renders it difficult of inspection for detection of disease, and hence the special reference to it in the regulations. The Local Government Board points out, however, that the effect of the regulations is not to prohibit entirely the importation of boneless meat but only of the forms known as boneless scrap meat. If the meat is imported in such shape or such condition as to afford sufficient means of identification with definite parts of a carcass it will not fall within the terms of Class I. Meat of Class I. is prohibited entry into the country for purposes of human consumption. In order to prevent the detection of evidence of tuberculosis in pigs the lymphatic glands about the throat and elsewhere are removed, and the regulations provide that pig carcasses without those glands and without the head in its natural state of attachment (defined as Foreign Meats of Class II.) shall also be prohibited entry. The third class refers to several parts of a pig not prepared as bacon or ham but dressed and packed under satisfactory conditions, as evidenced by an attached certificate to that effect. The fourth class includes all other kinds of meat, and along with meat of Class III. is dealt with on its merits according as it is sound or unsound. When the officer of Customs ascertains that the cargo of a ship comprises meat of Class I. or Class II. he informs the medical officer of health to that effect. In regard to meat of Classes III. and IV. he is required to inform the medical officer of health only where "by reason of facts brought to his knowledge or of representations made to him" he is of opinion that the meat requires examination. As already indicated, meat of Classes I. and II. is not allowed entry unless the importer can satisfy a sheriff, magistrate, or justice that it is not intended for sale for human consumption. The object of the regulations which will come into force on Jan. 1st is that imported meat shall be dealt with by public health authorities at the place of importation. The disadvantage of the new regulations is the unequal dividing of the burden of inspection, which so far as Scotland is concerned will fall almost entirely upon Glasgow. There is no doubt, however, that a regular and systematic inspection by duly qualified officials will result in improvement in the quality of meat supplied.

The University of Aberdeen: Induction of Professor Dean.

At a fully attended meeting of the Senatus on Nov. 24th Professor George Dean was inducted to the chair of pathology, lately held by Professor D. J. Hamilton, retired. Principal Lang occupied the chair and in welcoming Professor Dean said: "Gentlemen, we have the pleasure of receiving to-day the Commission of the Crown in favour of Dr. Dean, whom, from to-day, we shall call Professor Dean." The secretary then read the Royal Commission, the members of the Senatus meanwhile standing, and after Principal Lang had concluded his formal welcome the right hand of fellowship was extended to the new professor. Professor Dean will begin to discharge the duties of the chair after the Christmas vacation.

Generous Bequests of an Elgin Merchant.

Mr. John Munro of Elgin, who died on June 29th last, has left, subject to the life use of his sister, Mrs. Isabella Tulloch, his residence, "The Knoll," Elgin, with grounds and buildings, to the Lord Provost, magistrates, and councillors of Elgin, for use as a home for persons suffering from incurable diseases, preference being given to inhabitants of the county of Elgin. Subject to £1000 upon trust for the benefit of Leanchoil Hospital, Forres, and other bequests, he left the residue of his property to his sister, Mrs. Isabella Tulloch, for life, with remainder to the Lord Provost, magistrates, and councillors of Elgin, as an endowment for the aforementioned home, to be carried on by them.

Dec. 1st.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The Recorder of Dublin on Squalor and Crime.

THE Recorder of Dublin has once again taken the opportunity of recurring at the opening of the City Criminal Sessions to the inevitable association of squalid poverty with terrible crime. In his address to the grand jury, after referring to the small number of 16 cases—all "simple"—with which they had to deal, he proceeded to observe that he "felt assured that they would be happy to know that although the state of the city was not all that they desired, yet there was much to congratulate themselves on in the absence of the more gross and serious classes of crime. He had so often called attention to the main sources of crime, intemperance, and disease in their midst, and with such barren results, that he regarded any effort to arouse the public conscience to the terrible condition of the working poor, and the squalid and loathsome slums in which they are housed, as hopeless. The toiling masses of the city would, he feared, be left to rot in their sunless lairs until the growth of crime and the scourge of pestilence compelled the attention which the call of humanity had failed to secure."

St. Vincent's Hospital, Dublin.

A large congregation assembled at the annual Requiem Office and High Mass for the deceased founders and benefactors of St. Vincent's Hospital, as all classes of Dublin society are interested in the welfare and progress of this institution because of benefits received directly or indirectly. Few institutions of its class in the whole area of the British Empire have carried out more thorough and effective work during the past quarter of a century, within the proportional limits of its accommodation, while all the necessary money has been obtained from the contributions of the sympathetic public. At a time when the general hospital nursing of Dublin was for the most part carried out in a haphazard manner the sisters of charity attached to the hospital organised a system of nursing which rapidly proved effective, and this is always remembered to its credit.

Castlerea Board of Guardians v. *the Local Government Board.*

The Castlerea board of guardians has been exceptionally prominent during the greater part of this year in its antagonism to the Local Government Board regarding the jurisdiction and arrangement of medical matters. I have already referred in this column to the fact that the board opposed the superannuation allowance of the late Mr. S. McDermott of Ballaghaderin, the result of which was that when the Local Government Board used its legal power to right the wrong the veteran medical officer did not live to receive the first instalment of his pension. On Nov. 23rd, in the King's Bench Division (before the Lord Chief Justice, Mr. Justice Gibson, and Mr. Justice Kenny), an application was made on behalf of the guardians of the Castlerea union in resistance to an Order of the Local Government Board of Sept. 18th last which purported to re-divide the dispensary districts of the Castlerea union and to appoint to the three districts certain medical officers and midwives. The districts involved were Castlerea, Castleplunket, and Ballaghaderin. The guardians objected to the Order on the alleged ground that it was an over-riding of their rights. They were prepared to agree to a re-division of the union, but the Local Government Board asked them to agree to a particular

arrangement to which they objected and the Board also proceeded to appoint the medical officers and the midwives for those districts without regard to the right of the guardians to make the appointments. In giving judgment the Lord Chief Justice, after discussion of some technicalities, stated his opinion that "the paramount discretion was with the Local Government Board. The real substance of this is that the rearrangement was for the benefit of the people of the district." Mr. Justice Gibson referred to the fact that the guardians never gave any reply to the Local Government Board but simply characterised the official proposal as "ridiculous." Mr. Justice Kenny concurred with the views of the other judges.

Ulster Medical Society.

The annual dinner of the Ulster Medical Society was held in the Medical Institute, Belfast, on Nov. 26th, Mr. T. S. Kirk, the President, being in the chair. The President gave the toast of "The King" and then "The Lord Lieutenant of Ireland," to which the Lord Mayor of Belfast (Sir Robert Anderson) replied, both the Lord Mayor and the President laying stress on the work done by Lady Aberdeen in the anti-tuberculosis campaign. The next toast, "Our Guests," was given in a very humorous way by Mr. R. J. Johnstone, and to it Mr. A. J. Horne (President of the Royal College of Physicians of Ireland) and Mr. John Lentaigne (President of the Royal College of Surgeons in Ireland) responded. Finally the toast of "The President" was given by Professor W. St. C. Symmers, to which Mr. Kirk replied. During the evening some excellent songs were sung by Dr. J. E. MacIlwaine and Mr. R. D. Patterson. This annual reunion of the Ulster Medical Society, at which about 60 were present, was in every respect a great success and the arrangements were admirably carried out by Dr. H. Stevenson (honorary secretary of the society).

The Sewage Pollution of Belfast Lough.

On Nov. 24th a Local Government Board inquiry was opened in the City Hall, Belfast, by Sir J. A. MacCullagh (medical inspector), with whom sat Mr. P. C. Cowan, M. Inst. C.E. (chief engineering inspector), into an application of the city council of Belfast for a loan of £112,300 for the purpose of carrying out a scheme for the purification of the sewage of the city and for completing the Sydenham and Knock drainage scheme. The inquiry lasted until the afternoon of the 27th, when it was adjourned until Dec. 15th. Several witnesses (the city surveyor, the city accountant, the chairman and another member of the improvement committee) were examined. There is a very formidable opposition to this scheme on the part of the Harbour Commissioners, the residents on the shores of Belfast Lough, the Castlereagh rural district council, the Belfast rural district council, the Holywood urban council, and others, the main lines of opposition being two—first, that the scheme was incomplete and partial and would only lead to a purification of from 20 to 30 per cent.; and secondly, that it did not comply with the statutory obligations of the Belfast corporation as defined by the Act of 1899. A curious fact came out by the city accountant estimating the population of Belfast during the present year as 380,344, while at the Health Commission the chairman of the public health committee estimated the population of Belfast for 1906 as 388,159, showing a remarkable decrease in two years.

Vice-Regal Visit to Donegal.

The Lord Lieutenant of Ireland and Lady Aberdeen have spent the past week in various parts of the north-west of Ireland, opening a Tuberculosis Exhibition in Donegal on Nov. 24th, after visiting Belleek on the previous day. At Donegal Mr. H. T. A. Warnock read an address cordially welcoming them and referring to the gratitude of the Irish people to the Countess for her great exertions to promote Irish industries and thanking her for her energy in prosecuting the anti-tuberculosis campaign. The Lord Lieutenant also spoke and the Countess of Aberdeen declared the exhibition open. Subsequently it was decided to open a branch in Donegal of the Women's National Health Association of Ireland. During the remainder of the week their Excellencies visited various parts of the north-west—Trillick (where the tuberculosis van "Eire" was started on its tour throughout Ireland), Omagh (where the County Hospital was inspected), Enniskillen (where Lady Aberdeen visited the County Infirmary with its open-air consumption chalet), and Ballyshannon (where the Tuberculosis Exhibition had moved from Donegal). The enterprise shown in spending a week—at a most inclement part of the year—in an out of the way district of the country so as to promote the Women's National Health Association of Ireland and to inspect and to encourage various native industries is recognised by all parties.

Dec. 1st.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Pneumonia occurring Simultaneously in Husband and Wife.

AT a meeting of the Hospitals Medical Society held on Oct. 30th M. Widal related on his own behalf and on that of M. Chauffard, two cases of pneumonia occurring simultaneously in husband and wife. Both patients had drunk upon the same day, in accordance with their usual custom, a quantity of cold water. On the following day both patients were attacked with pneumonia at a few hours' interval. The disease ran a similar course in both, the two crises occurred on the same day and the two temperature charts were similar. It is difficult to suppose that in these two cases the one was infected by the other, as the rigor in the one so closely followed that in the other. Neither were there any influences such as fatigue or insanitary conditions present, so it would seem as if the infection was to be put down to the water. On Nov. 6th M. Netter referred to the subject and gave it as his opinion that in cases of simultaneous pneumonia in husband and wife the virulence of the pneumococci present in the mouth might be exalted by cold, such as, for instance, the ingestion of cold water.

The Light Treatment of Lupus.

At the November meeting of the Society of Dermatology and Syphilography M. de Beurmann and M. Degrais exhibited some apparatus used in phototherapy. At the St. Louis Hospital there is now a department in which four Finsen lamps are available capable of treating 128 patients per day. The two pieces of apparatus shown at the meeting were the one a method for easily focussing the lenses for the light from an electric arc, and the other a method of keeping up regular automatic compression of the region treated.

Altitude and Sunlight Cure of Cutaneous Tuberculosis.

At the same meeting of the same society M. Hallopeau gave an account of the results obtained by M. Rolier in the treatment of various tuberculous affections, and in particular that of lupus, by the rays of the sun at a high altitude. The patients are exposed almost naked and the effects are excellent. It would seem that the pigmentation which results from exposure to the sun is of great importance in rendering the penetration of the rays more complete. M. Balzer gave an account of a case of lupus of the nose which had been cured by exposure to the rays of the sun at sea level. M. de Beurmann said that this method gave good results in gummata and certain forms of cutaneous tuberculosis. A high altitude was, however, preferable, for there the chemical rays of the sun were more active and the heat rays less so.

Cancer of the Rectum and Fulguration.

On Oct. 24th at the Society of Medicine M. Bizard gave an account of a case of a man, aged 41 years, who had suffered for two years from cancer of the rectum. Various surgeons had agreed that the only thing to be done was to make an artificial anus. Treatment of the growth by fulguration was begun in the month of November, 1907. The results were excellent. The local trouble disappeared for the most part and the patient has gained 26 pounds in weight since the treatment was begun. This case and others like it would seem to show that fulguration is one of the best methods of treatment for cancer, even for those cases which are considered inoperable.

Atoxyl in the Treatment of Malaria.

M. Vassal has been able to study the effects of atoxyl in 17 cases of malaria at the native hospital of Nhatrang in Annam. He uses a 10 per cent. solution which he injects deeply into the muscles of the thigh, the dose being 1 gramme of atoxyl. In other cases he gives the salt by the mouth in doses of 10 centigrammes per day for ten days and upwards. Employed by itself in these large doses, atoxyl is neither antipyretic nor antiparasitic, but if

associated with quinine the remedy is of great value. This communication was made at the Society of Tropical Medicine on Nov. 11th.

Primary Cancer of the Bronchi.

At a meeting of the Medical Society held on Nov. 28th M. Letulle described from his own observations three forms of primary cancer of the bronchi. The first is an ordinary interstitial cylindrical epithelioma. The second is active (*végétante*) and characterised by the formation of buds of atypical epithelioma. The third is cavernous and follows upon an old bronchiectasis. It is characterised by lobulated pavement epithelioma. The clinical signs are of an extremely varied character.

Dec. 1st.

ITALY.

(FROM OUR OWN CORRESPONDENT.)

The Government and Infective Disease.

A WELL-INSPIRED, if not wholly new, departure has been taken by the General Board of Hygiene with the view of disseminating among the masses the fundamental laws of health, and so of combating the ignorance and the prejudice which favour the attack and propagation of disease. These laws of health are also those which make for decency and decorum in public life, coefficients, in fact, of that civilisation which is the distinctive mark of the more advanced races. "Popular instruction for the protection of the individual against infective maladies"—such is the rubric of the series of publications which the Direzione Generale della Sanità has begun to issue towards the above-indicated end and the specimens of which now before me seem creditable alike to their initiators and their authors. The first on the list deals with small-pox; the second with scarlet fever; the third with measles; the fourth with "tifo petecchiale" (petechial typhus); the fifth with cholera; the sixth with "tifo addominale" (enteric fever); the seventh with dysentery; the eighth with ankylostomiasis (so frequent among the labourers employed in railway tunnelling); the ninth with tuberculosis; the tenth with pneumonia; the eleventh with malaria; the twelfth with diphtheria; and the thirteenth, now in the hands of the printer, with trachoma. Each of these brochures contains clear, succinct instruction as to the malady with which it deals—its mode of diffusion and its danger, immediate or subsequent, and, as to the infective agent itself, its origin and its vehicle, the channels by which it finds access to the system, and the predisposing causes. A graphic picture is afforded of the symptomatology of the various infections, and from this the reader is provided with opportune instructions as to how he may best insure himself against each disease. A thoroughly qualified practitioner has in each case been intrusted with the publication, and while stringently scientific as to his facts he writes in a clear style, intelligible to the fairly well-educated reader. The series is in course of distribution throughout all the centres of population, rural and urban, particularly among the masters of elementary schools, the directors of manufacturing works in town and country, the heads of public offices, to say nothing of the *medici condotti* (divisional practitioners) and others who may reasonably be expected to coöperate in the propaganda. There are four outstanding truths which the Direzione Generale della Sanità is particularly anxious to impress on the masses: (1) that disease is not to be considered as a fatality to which the human subject is inexorably exposed; (2) that disease is the product of special micro-organisms which, bred from without, find entrance into the system generally *per incuriam* (sins of omission or commission) on the part of the individual; (3) that contagion can be avoided or guarded against; and (4) that everyone who has the knowledge and the will can keep himself immune from infective disease. Nothing can be more laudable than the aim and the *modus operandi* of this hygienic crusade (as it may be called); but success must not be looked for all at once. Rome was not built in a day, nor is sanitary reform to be accomplished in a decade—particularly with a population wellnigh one-half of whom are *analfabeti*, and of whose young married couples (in the south) not 70 per cent. can sign the marriage-lines.

An Academic Strike.

"We are a carnival people," said Antonio Gallenga of his compatriots; and certainly the "demonstrations" of which the universities from the Alps to Etna have for the past week been the source and centre bear out the remark of the "Dean of the Italian Press." Besides Italy proper there is an "Italian Austria" as there is an "Italian Switzerland"—the Trentino and the Istrian Triangle in the former corresponding to the Canton Ticino in the latter; the preponderating language in both being that of Italy—to such an extent, moreover, as to make them the object of Italian reclamation under the banner of "Italia Irredenta." Thanks, however, to good, not to say sympathetic, government, the Swiss Italian has no inclination to revert to the motherland; but it is another thing with his Austrian counterpart. The Austrian *régime*, always loathed in Italy, has left behind it a bequest of ill-will amounting to race hatred, which has been fostered by grievances, real or imagined, which have never been allowed to die down. It is at the universities that this racial antipathy is most accentuated, and the collisions, often ending in bloodshed or even loss of life, between the Italian and the Austrian students have year by year been increasing in frequency and violence. Nay, in Vienna itself a "tafferuglio" (row) occurred the other day in which the Italians, outnumbered in the proportion of 10 to 1, had considerably the worst of it, and immediately thereafter a response of "sympathy and solidarity" was started in all the seats of learning throughout Italy, the students abandoning their studies, marching in procession through the streets, insulting every Austrian official (diplomatic or consular) whom they encountered, and colliding with the police who endeavoured to save the said officials from violence or the Italian public from suspension of traffic. The students, nothing loth to have an unauthorised holiday, have been patrolling the streets of the university towns in high glee and with scant consideration for the interests, business and other, of their compatriots, till a general cry of "Basta!" (enough) has risen from all classes, accentuated by leading articles in the press, official and non-official. The demonstrations, and the grievances from which they spring (chief among these being the want of an Italian university at Trieste), are now under consideration (diplomatic and Parliamentary) at Vienna and Rome, and there I am content to leave them. But may it be whispered that the Italian *Burschenschaft* is a little too prone to such outbreaks, too liable, on the slightest provocation, to take a side in international quarrels which concern them remotely, if at all; too given to "carnivalesque" proceedings, rhetorical and processional, and so to interrupt those studies on which their future acceptance as citizens depends—studies which they often deprecate as too severe or as leading up to examinations for which they are not always duly prepared? The university quadrangle, with its opportunity for high-flown harangues, seems more attractive for them than the university class-room, with its steady, if monotonous, routine, and the result is a "solution of continuity" in study and professional equipment which perhaps explains the rather poor output of the said universities in scholarship, science, and research. Such were not the youthful methods of the Galileos and the Torricellis, the Baglivis and the Morgagnis, the Leopardis and the Manzonis, to whom Italy looks back with pride and the civilised world with gratitude. Let us hope that these latest "demonstrations" will be the last and that, while the Italian and Austrian Governments will between them devise a better *modus vivendi* at their seats of learning where the two nationalities study in concert, the youth of Italy itself will develop more self-restraint and more practical appreciation of the old Hippocratic motto, "Ars longa, vita brevis."

Dec. 1st.

BUDAPEST.

(FROM OUR OWN CORRESPONDENT.)

Renal Diseases and Cryoscopy.

AT a recent meeting of the Budapest Royal Medical Society Dr. Müller said that the cryoscopic examination of the blood of a certain number of very difficult cases had been of great value in determining the question of operation. He said that the method depended upon the well-known physical law that the freezing point varies with the osmotic density rather than with the specific gravity. Casper Richter, Kümmel, Korányi, and others carried out most of

the cryoscopic work. Bechmann's apparatus is probably the simplest to use and gives very accurate results. The lecturer exhibited this apparatus and demonstrated to the society the determination of the freezing point of some serum from a case under observation. Normally, he said, the freezing point should be $-0{\cdot}56°$ C. ($\delta = 0{\cdot}56$) for the blood. For the urine it should be from $-1{\cdot}2°$ to $-2{\cdot}5°$ C. ($\Delta = 1{\cdot}2$ to $2{\cdot}5$). It was observed that even after an intravenous infusion of 2000 cubic centimetres, the freezing point of the blood would become normal in four hours. He concluded that cryoscopy indicates the extent to which the kidneys are getting rid of the effete products of metabolism and that in certain cases of unilateral renal disease it was a most valuable aid to differential diagnosis.

The Care and Treatment of Epileptics.

At the opening of the new Hospital for Epileptics and Lunatics Dr. Donath gave a short address on the care and treatment of epileptics. He remarked that society was wholly responsible for the conditions which gave rise to epilepsy and it was the duty of society at large to contribute to the care of the unfortunate victims of those conditions of its own creation. More than 85 per cent. of epileptics were hereditary sufferers, and alcoholism in the parents was responsible for the great majority of cases. It had been said that not less than one in every three children of alcoholic parents suffered from epilepsy. Colonisation of the sufferers was the only way in which epileptics could be cared for properly. He said that up to now they had been shut up with the insane in most of the lunatic asylums in Hungary, a state of affairs which was unfair to both classes of patients. The majority of physicians were willing to admit that purely medical or surgical treatment was of little or no value except in very exceptional cases. More had been done by insisting on a truly hygienic mode of living, strict regulations of the habits of life, and particularly by suitable and interesting employment and surroundings.

New Regulations for School Hygiene.

Under the direction of the Minister of Education the Board of Education has drafted a new set of regulations for the supervision of school children by medical practitioners who will periodically examine the health of the children attending the schools, as is the case at present in Austria. As the chief object of the regulations is the prevention of disease they refer rather to prophylactic work than to the treatment of sick children. The school medical officers will have control in all matters relating to the physical and psychical well-being of the pupils, they will supervise the gymnastic exercises, and before each school term they will examine the children as to the state of the eyes, ears, throat, and spine, so as to discover any who may be unfit for the work of the class in regard to singing, gymnastics, and needlework. First aid may be given if necessary but otherwise medical treatment is not to be undertaken. The proposed remuneration is almost as much as in Austria, about £2 per class per annum. It is also proposed to appoint special practitioners for prophylactic work alone.

Treatment of Eclampsia.

At a meeting of the Nagyvárad Medical Society Dr. Révész laid down the principles of treatment of eclampsia. They consist only in controlling the convulsions and eliminating the toxins. Chloroform is the most trustworthy agent for controlling the convulsions but its injurious effect on the cardiac and vascular systems precludes its use for any extended period. Morphine restricts the eliminative function and prolongs the post-eclamptic stupor. Chloral controls the convulsions, is less toxic than morphine, has no injurious effects on secretion, and can be continued for long periods. Dr. Révész considers the most satisfactory method to be the employment of chloroform until chloralisation is complete. Veratrum would seem to meet the indications but has not been sufficiently tried. To secure elimination of the toxins catharsis by means of calomel, croton oil, or high flushings of the colon is of prime importance. Fluids by the mouth and rectum and cupping over the kidneys will stimulate diuresis. Diaphoresis is best obtained by the hot-air bath or hot pack. The uterus should be emptied as speedily as possible by forceps or version if the cervix is dilated. A closed cervix should be dilated by the fingers or rubber bags. If the cervix is rigid and "cartilaginous" Cæsarean section, vaginal or abdominal, should be performed.

Nov. 27th.

NOTES FROM INDIA.

(FROM OUR OWN CORRESPONDENTS.)

Malarial Fever.

THE mortality returns show that the deaths attributed to "fever" in the North-West Provinces amount to approximately two-thirds to three-quarters of the total number of reported deaths. The death ratio from "fever" per 1000 of the population in the period 1883–92 was 24·41; it rose in the next decade to 25·17, and in the five years 1903–07 to 26·83. After making allowance for lung affections and tuberculosis, and in late years for undiagnosed plague, a large proportion of these deaths must be undoubtedly put down to malaria; the exact proportion it is impossible to define, but a high death-rate attributed to "fever" may be safely taken as an indication of the prevalence of malaria. And not only are many deaths directly attributable to that cause, but the prevalence of malaria by undermining the stamina of the people makes them more susceptible to fall victims to other diseases. In attempting to improve the conditions under which the people live, the special attention of the Government should be devoted to measures for minimising the prevalence of malaria. With the object of investigating the causes of malaria in the districts of the provinces and of making recommendations for removing them as far as this can be done, the Lieutenant-Governor has decided, as stated by him in his speech at the opening of the recent sanitary conference, to place an officer on special duty, and has for this purpose selected Major J. C. Robertson, I.M.S., a deputy sanitary commissioner in these provinces, now on leave. Major Robertson will take up this investigation immediately. He will be under the control of the sanitary commissioner who will furnish him with detailed instructions approved by the Lieutenant-Governor for his guidance in making the inquiry intrusted to him. The latter looks to district and other officers to afford him all possible assistance in carrying out this work and trusts that he may also be accorded the coöperation of all non-official residents interested in the improvement of the conditions of life in the provinces.

Malaria in Calcutta.

Some interesting remarks concerning malaria in this city are made by Dr. T. F. Pearse, health officer of the Calcutta corporation, in his report on the administration of his department for the past official year. Dr. Pearse states that the proportion of deaths from malaria is very small in Calcutta compared with that in the province of Bengal, and the difference is not entirely explained by the more accurate registration of the causes of death now made in the city. Comparatively little true malaria is "caught" within the limits of Old Calcutta, although the suburbs are more fever-ridden than the central parts, and there is no reason to believe that malaria kills off a larger proportion of the inhabitants than previously. Indeed, the Calcutta statistics of recent years tend to show the contrary. Hindus and Mahomedans suffer equally; but malaria is no respecter of persons, at any rate in India, although females seem to die from this disease in greater proportion than males. The present epidemic of autumn fever extends all over the central parts of the country and Bombay. It is more widespread than has been known for several years and its effects are felt both in towns and villages. The area affected is so large that but little can be done to check the outbreak, though the distribution of quinine is proceeding as rapidly as possible. The conditions of rural life especially are such that the application of scientific methods is beset with many difficulties.

Plague.

Except in the Bombay Presidency plague does not so far show any signs of recrudescence. In the Punjab, which has suffered so severely in the last few years, the Ludhiana and Ferozepore districts report a certain number of deaths every week and the disease has a slight hold still upon the Canal colonies and in Patiala State, but the weekly mortality is small. In the United Provinces there are a few cases in the Gorakhpur division, but the latest returns show only 16 deaths in the week. In Bengal out of 72 deaths 49 occurred in the Monghyr district. Plague has reappeared in the Berars, Amraoti town and district being most affected; and in the Hyderabad and Mysore States the mortality is what might be expected at this season of the year. On the

whole, there is far less spread of the disease than usually takes place as the cold weather sets in, but it is impossible to say whether this state of things will last.

Health of Prisoners in Indian Jails.

A note by the Sanitary Commissioner with the Government of India on sickness and mortality in jails during the year 1907 has just been issued. It appears that the record of the health of prisoners in Indian jails is one of consistent progress. While the death-rates among the general population are rising those among the prisoners are falling, and although the rates among both classes of people fluctuate from year to year the fluctuations in the jail death-rates are becoming less frequent and less marked. The rates are falling more steadily than formerly, and it is justifiable to say that this is because in the jails the arrangements for counteracting the influences of adverse climatic conditions and for preventing the spread of communicable diseases are improving every year. There is no doubt that at the present time prisoners in Indian jails live under conditions which in nearly all respects are very favourable to health. Cholera and plague, the scourges of the general population, scarcely affect the prison statistics and in preventing the spread of other communicable diseases medical officers have obtained a high degree of success. Although the climatic conditions of 1907 were abnormal and in most provinces were unfavourable to prosperity, which in India is a factor of much importance in connexion with health, the health of the prisoners was good and the death-rate on an average daily population of 107,675 (or 2407 less than in 1906) was only 18·51 per 1000, which is the lowest rate ever recorded. In these figures the statistics in the Andaman Islands (where the average strength was 14,411) are included, but as the convicts in these islands live under conditions which differ considerably from those in Indian prisons it is advisable to consider the statistics separately.

Permanganate of Potassium and Snake-bites.

Good results continue to be gained by the use of permanganate of potassium in cases of snake-bite. Reports from 18 districts in Bengal during last year show that in 198 cases where the treatment was resorted to there were only 23 deaths. In a number of instances the persons bitten were not received in hospital until the fatal symptoms had developed, when the permanganate fails, of course, in its effect. The cases which come under treatment are comparatively few, as the people still believe in their snake charmers, but it is hoped that the efficacy of the new remedy will gradually become known to all classes. It is suggested that as the treatment is very simple and efficacious local governments might well order that every police station and outpost, every school and every president of a *panchayat*, should be provided with permanganate lancets, so that cases of snake-bite may receive the earliest treatment. This is a very practical suggestion; the cost of the lancets would be trifling and the number of cases treated annually would probably rise from hundreds to thousands.

Oct. 30th.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

Eighth Australasian Medical Congress.

THE Eighth Australasian Medical Congress was formally opened on Monday, Oct. 19th, in the Melbourne Town Hall. His Excellency, Sir T. Gibson-Carmichael, the Victorian State Governor, presided, and the Victorian Government was represented by the Hon. T. Swinburne, Minister of Public Works. The present Congress in point of numbers is larger than any of the previous gatherings, upwards of 750 members being enrolled, and it is estimated that about 500 members will be in actual attendance. The opening ceremony was very imposing. The town hall was filled by a large audience, while the gallery opposite the platform was occupied by nurses in costume, making up a striking picture. After a welcome had been extended by the Governor, Mr. Swinburne, and the Lord Mayor of Melbourne to the visiting members, Professor H. B. Allen delivered his inaugural address as President of the Congress. He dealt first with a review of the mystery of life as exemplified in a study of the bio-chemical processes and the continuity of life. He contrasted the underlying continuity of existence with the tendency to individual variation, and noticed the chief theories of heredity and their possible bearing on medical thought. Passing from the theoretical consideration of life processes to the practical care of life which was the peculiar function of the medical profession, Professor Allen deplored the fact that the death-rate from puerperal sepsis and accidents of childbirth had altered very little during the past 40 years either in England and Wales or in Victoria. He advocated a Midwives Act for Victoria on the lines of the present English Act. He also pointed out the decline of the birth-rate and dwelt on the physical and mental evils of the childless home. The infant mortality figures, however, showed a more cheerful subject for study and Professor Allen dealt with the importance of natural feeding and the need for the control of the milk-supply. He noticed the growing activity of public health administration and drew attention to some notable improvements in the mortality figures of certain infectious disorders. In conclusion he said that the medical profession owed the public "a service of thought as well as a service of action. The members of Congress would go back to their spheres of duty made stronger by fellowship and humbly striving for a more adequate answer to the question, 'What hast thou done, what hast thou thought?'" A vote of thanks was carried on the motion of Dr. J. Thomson (Brisbane) and Professor T. P. Anderson Stuart (Sydney). On Tuesday the address in the Section of Medicine was delivered in the Wilson Hall by Dr. G. E. Rennie of Sydney. His theme was the mental factor in disease and the importance of determining whether there was any organic change at all present in certain patients. He dealt with the apparent causative influence of mental anxiety in such an affection as diabetes as illustrating the importance of the inter-relation between mental states and organic disease. He further examined the mimicry of actual disease by mental states and instanced cases in his own experience which had been cured by reasoning the patient out of the idea that actual disease was present. The importance of thorough examination of every organ was dwelt on before any result could be looked for, but in many of the cases of neurasthenia and psychasthenia and allied states the mental attitude was often too lightly dismissed or even passed over altogether. He noticed the treatment of such conditions by reasoning, suggestion, and hypnotism, expressing distrust of a great deal that had been published in connexion with the last named.

Hospitals for the Insane.

The annual report of the Inspector-General for Victoria shows that there were on Jan. 1st, 1907, 4937 certified insane patients in Victoria. At the end of the year the number had increased to 5052, making 1 in 249 of the population. 219 cases were dismissed from the asylums as complete cures, 68 were relieved, and 16 without benefit. The recovery-rate was the lowest since 1897, but this was partly due to the fact that the cases dealt with at the receiving house were not included in asylum figures. An analysis of the probable cause of insanity in the 728 cases admitted during 1907 showed 169 due to unknown factors, 86 had suffered previous attacks, 64 were attributed to intemperance in drink, 57 to hereditary influence, 42 to mental anxiety, and 32 to domestic trouble. The conduct of the licensed houses was said to be all that could be desired. They could be made more useful by admitting patients on a voluntary boarder system. At Kew Asylum an outbreak of enteric fever occurred in which 61 cases were treated with 14 deaths. "It is a fact worthy of note," says the report, "that eight patients showed marked mental improvement after they had recovered from their illness." The cause of the outbreak has not been traced. It is recommended that the Lunacy Act should be amended so as to provide for the transfer without further certification of patients from the hospitals for the insane to private licensed homes and from the latter to the former. The expenditure for the year was £141,543, an increase of £5315 on the previous year.

Milk-supply of Sydney.

A deputation recently waited on the Lord Mayor in Sydney with reference to the establishment of milk depôts. The Lord Mayor pointed out that the council had no power to take any such action. Dr. W. G. Armstrong, the city health

officer, said that Sydney's infant mortality-rate for the last two and a half years was only 91 per 1000. Already the city authorities had a system by which 65 per cent. of nursing mothers in the city and practically all the poor ones were visited by a lady inspector who gave advice as to the feeding and management of infants.

Friendly Societies.

Some time ago the New South Wales branch of the British Medical Association submitted a model agreement to the friendly societies in that State which contained a provision—

That any person joining a lodge shall be deemed ineligible for any medical benefit from such lodge, if on joining he and his wife have a joint income of over £200 per annum, or at any time thereafter their joint income exceeds £300.

This has been submitted to the societies concerned and rejected, practically unanimously. At a meeting of the Friendly Societies' Association it was moved—

That the British Medical Association be informed that this association will not agree to any model agreement containing a wage limit.

A subsequent motion desiring a conference was lost.

Public Health of Victoria.

The annual report of the Victorian Board of Public Health sets forth that a vigorous aggressive movement has been made against tuberculosis. With the extension of accommodation for consumptives the board has felt justified in enforcing the notification of cases. It is not claimed that this is entirely effective but the number of notifications is increasing. In 1904, 413 cases were reported and in 1907, 841. The mortality from tuberculosis is said to be falling steadily. Under the Milk and Dairy Supervision Act records are kept of 68,000 dairy cows. 287 cows have been discovered to be diseased and 126 have been destroyed.

Sydney Quarantine Station.

The Sydney quarantine station is situated just within the North Head at the entrance to the harbour. The suburb of Manly, which is one of Sydney's pleasure resorts and the home of surf-bathing, now runs up to within a mile or two of the quarantine area. It has been pointed out that the present site of the quarantine ground cuts off a large area that might be used as a picturesque pleasure reserve, and a movement is on foot to shift the quarantine buildings to some other part of the harbour. The question will, however, be one for the Commonwealth Parliament, as there is not likely to be any alteration made before the control of quarantine is handed over to the Federal authorities.

Oct. 20th.

Obituary.

RAHEEM MAHOMED BUKSH, M.R.C.S. ENG., L.S.A.

Raheem Mahomed Buksh, who died at The Hall, Balaam-street, Plaistow, on Nov. 15th, was at the time of his death honorary surgeon to the Plaistow Dispensary. He had previously been house surgeon and house physician at the London Hospital, where he was very well known to everyone and enjoyed general esteem and respect. After being house surgeon at the Poplar Hospital, where he went from the London Hospital, he settled at Plaistow, and in course of time obtained a considerable practice. Here he was helped by his deceased wife who had been a nurse at the London Hospital and whose kindness to the very poor was of the practical sort that comes from experience. The grateful appreciation of these unfortunate people of the efforts made in their behalf was evidently regarded by both husband and wife as a more than adequate return for their labours. For some time Mr. Buksh had been in indifferent health, though he had allowed but few even amongst his most intimate friends to be aware of it. Most fortunately he suffered little if at all from his condition, and his last days were cheered by the kindly attention of Dr. W. J. Hadley and his old and highly esteemed friend Mr. T. H. Openshaw. The interment took place at Brooklands on Nov. 20th in the Mahomedan section, the ceremony being attended by a number of his old fellow students and patients. He was reverently laid to rest by his Indian fellow countrymen residing in London.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. Alonzo B. Ball, formerly professor of medicine in the College of Physicians and Surgeons, New York.—Dr. Turner Anderson, professor of midwifery and gynæcology in the University of Louisville.—Dr. San Martin y Satrústegui, professor of clinical surgery in the University of Madrid.—Dr. Benjamin Anger, formerly surgeon to the Paris Hospitals.—Dr. J. B. McGaughey of Winona, one of the most popular practitioners in the State of Minnesota. In early life he fought on the side of the Union Army in which he attained commissioned rank. While outside the lines at Stevenson, Alabama, caring for his wounded colonel, he was captured by the enemy and was for a time in Libby prison. After the war he studied medicine and graduated at the University of Michigan. He was one of the two delegates from Minnesota to the last Convention of the American Medical Association, and he served for many years as a member of the State Board of Medical Examiners.—Dr. Albert Carrier, formerly physician to the Lyons hospitals.—Dr. Félizet, formerly surgeon to the Paris hospitals.—Dr. Paul Vidal, formerly surgeon to the Marseilles hospitals.—Dr. Kiutsch, *privat-docent* of children's diseases in the University of Moscow.—Dr. Vincenzo Brigidi, formerly professor of pathology and anatomy in Genoa.

Medical News.

TRINITY COLLEGE, DUBLIN.—At the Final Medical Examination, Part II., held recently the following candidates were successful:—

Midwifery.—Ralph T. St. J. Brooks, Frederick A. Anderson, Victor B. Kyle, Howard S. Millar, John D. Kernan, Harold S. Sugars, William Knapp, Edwin B. Bate, Charles B. Jones, and James D. Murphy.

FOREIGN UNIVERSITY INTELLIGENCE.—*Berlin:* Dr. Georg Jürgens, assistant physician in the second medical clinic of the Charité, has been granted the title of Professor. Dr. Gustav Schütz, teacher of mechanical therapeutics, has also been given the position of Professor.—*Cologne (Academy of Practical Medicine):* Dr. Ferdinand Zinsser, chief medical officer of the City Hospital at Lindenberg, has been appointed Professor of Dermatology; Dr. August Prochsting, chief medical officer of the City Eye Hospital, Professor of Ophthalmology; and Dr. Carl Cramer, chief medical officer of the Bürger Hospital, Professor of Orthopædic Surgery.—*Göttingen:* Dr. Eichelberg has been recognised as *privat-docent* of Mental Diseases.—*Kiel:* An orthopædic polyclinic or out-patient department has been attached to the University Surgical Clinic.—*Nantes:* Dr. Mirallié has been transferred at his own request from the chair of Forensic Medicine to that of Pathology.—*Rouen:* Dr. Dévé has been appointed to the chair of Internal Pathology in succession to Dr. Brunon.—*Vienna:* Dr. Ferdinand Hochstetter of Innsbruck has been appointed to the chair of anatomy vacated by the death of Dr. Toldt. Surgeon-General Florian Kratschmer, Ober-Sanitätsrat, has been knighted.

THE IRISH MEDICAL SCHOOLS AND GRADUATES' ASSOCIATION.—This association held its autumn dinner on Nov. 24th, at the Hotel Cecil, Strand, London, under the chairmanship of the President, Surgeon-General Sir Charles MacDonagh Cuffe. The toast of "Our Defenders," proposed by Judge Rentoul, was responded to by Dr. Samuel Browne, late Surgeon, R.N. Major V. H. W. Davoren, R.A.M.C., who also replied, said that Mr. Haldane had provided them with a scheme for a large territorial force which it was hoped would be carried out completely when the country understood that it was the duty of every able-bodied man to assist in the national defence. He declared that under the able directorship of the present officer in command the Army Medical Service was in a more efficient state than at any time in its previous history. Dr. J. A. Macdonald submitted the toast of "The Guests" and said that the name of one of them, Sir Robert Hart, would stand as one of the foremost of that honoured band of Irishmen which had rendered the name of Britain the foremost in all matters of progress, humanity, and religion. Sir Robert Hart, in his reply, described the difficulties in the way of progress in medical science in China but gave some

details of a new hospital in Peking which promised to achieve a far-reaching success in the future. Mr. Daniel M. O'Connor, in proposing the toast of "The Association," roused his audience to great enthusiasm by his whole-hearted advocacy of the claims of Irish medical men and the proceedings terminated after the President had replied.

THE WEST OF ENGLAND EYE INFIRMARY, EXETER.—The committee of the West of England Eye Infirmary has received £2460 towards the £3000 required to erect a new wing which is to be built to celebrate the "centenary" of the institution. It is hoped that the remaining £540 will shortly be subscribed.

A DINNER was given on Monday, Nov. 23rd, at the Trocadéro Restaurant to Sir Robert W. Burnet, honorary physician to H.R.H. the Prince of Wales, to celebrate the fact that Sir Robert Burnet has been recently knighted. Sir J. Dickson-Poynder, M.P., presided, and among the medical men present were Sir Thomas Barlow and Inspector-General J. Porter, Director-General of the Medical Department of the Royal Navy.

THE MANCHESTER CREMATORIUM.—The nineteenth annual meeting in connexion with the Manchester Crematorium, Limited, was held on Nov. 19th. The report stated that the accounts had been made up to August 31st instead of to Nov. 30th, and in future the financial year would close at the earlier date. There were 83 cremations from Dec. 1st, 1907, to August 31st last, and 1202 since the opening. There was a loss of £3 0*s.* 6*d.* on the working during the last nine months. The chairman said that there had been 26 cremations since the end of August, making a total for 11½ months of 109. This he thought compared very favourably with the returns from other towns. It is perhaps worth while to give the numbers from other places that he named. At Golder's Green 315 bodies were cremated during the year; at Sheffield, eight; Leeds, 21; Hull, 32; Bradford, five; Darlington, six; Birmingham, 22; Leicester, 12; Liverpool, 28; Woking, 108; Glasgow, 23; and City of London, 13.

THE INFANTS HOSPITAL.—Post-graduate classes have been started at this institution. They will each consist of six demonstrations to be completed in the course of a fortnight—three in each week, on Tuesdays, Thursdays, and Fridays, from about 4.30 to 6 P.M., the course being practical and clinical. Three of the demonstrations will be conducted in the research laboratory, when each member of the class will be able to carry out the experiments individually. These experiments, connected with the chemistry of milk in its relation to infantile digestion, will be arranged so as to have a direct bearing on the ordering and preparation of foods for infants and the treatment of their nutritional disorders. This practical work is considered to be essential, as by this means the practitioner will be able to obtain that accurate knowledge which can only be obtained from practical work. The remaining demonstrations will be clinical and will deal with the treatment of the diseases and disorders of nutrition, dietetic and otherwise. The classes will be limited by the available laboratory accommodation. All further information can be obtained from Mr. Alfred J. Small, secretary of the hospital, Vincent-square, Westminster, London, S.W.

EPSOM ASYLUMS.—The desirability of Epsom as a residential district has been recently somewhat seriously affected by the protests in the London newspapers against the practice of allowing the inmates of the London County Council asylums to breathe the fresh air of Epsom outside the bounds of the asylums. Matters culminated last week in a public meeting of the inhabitants to consider a proposed motion to compel the London County Council to put a stop to the practice entirely. The Earl of Rosebery took the chair. All the speeches were not well considered, attacks being made on the medical superintendents and others connected with the asylums; but after the chairman of the asylums committee and others had pointed out the desirability from a medical point of view of allowing these walking parties the motion was lost by a large majority. No doubt the presence of parties of these patients in public may have its disadvantages, but when the improvement in their mental state likely to be derived by the change of air and scene is remembered, the humanity of the Epsom people in not wishing to curtail their privileges under proper supervision is much to be commended. We are certain that all concerned with the management of the asylums are willing to do all that they can to obviate as far as possible any annoyance being caused.

WINDSOR AND DISTRICT MEDICAL SOCIETY.—A meeting of this society was held at the Guildhall, Windsor, on Nov. 26th, when the President, Dr. Francis H. Hawkins of Reading, delivered a presidential address to a large gathering of members. The annual dinner of the society took place at the White Hart Hotel after the meeting, 35 sitting down. Sir R. Douglas Powell, Sir Dyce Duckworth, Sir Thomas Barlow, Dr. F. de Havilland Hall, Dr. Jamieson B. Hurry (President of the Reading Pathological Society), and Mr. V. Warren Low were present, and the Mayor of Windsor, the ex-Mayor, and others were guests of the society on this occasion. In addition to the customary loyal toasts Sir R. Douglas Powell responded for the Royal College of Physicians of London. Sir Dyce Duckworth proposed the health of the society, which was replied to by the President. Mr. W. B. Holderness proposed the medical guests, Sir Thomas Barlow responding; and the Mayor of Windsor returned thanks on behalf of the visitors, which toast was proposed by Dr. E. S. Norris. An excellent *menu* was served and the evening proved a most enjoyable one.

DEATH OF A MEDICAL MAN FROM COCAINE POISONING.—On Nov. 17th, at the Durham County Hospital, an inquest was held on the body of Mr. I. G. Pritchard, M.R.C.S. Eng., L.R.C.P. Lond., aged 30 years. The jury returned a verdict of "Death from cocaine poisoning," there being insufficient evidence to indicate the object of the deceased in taking it. According to the evidence of Mr. Alfred Leeming, a pharmaceutical chemist, the deceased went into his shop and asked for ten grains of cocaine hydrochloride, with one drachm of water, saying that it was for a patient. When he was making up the prescription he noticed that the deceased was "shaky," and asked him if he would like to go upstairs and rest. Witness assisted Mr. Pritchard up the stairs into a room and left him for a few minutes. On returning he became alarmed at his condition and sent for Dr. Smith. The deceased was removed to the hospital and died about two and a half hours afterwards. Dr. Henry Smith said that a week after Mr. Pritchard had entered his service as an assistant he looked unwell but seemed to have recovered his health on the following morning. He (Dr. Smith) believed that his assistant had contracted the cocaine habit and a bottle of cocaine and a hypodermic syringe were missing from the surgery.

CENTRAL MIDWIVES BOARD.—A meeting of the Central Midwives Board was held at Caxton House, Westminster, on Nov. 19th, Dr. F. H. Champneys being in the chair. Letters from a certified midwife as to the exercise by the local supervising authority of its powers of supervision and inspection were further considered. The Board decided that no further action should be taken in the matter, as it appears that the inquiries complained of in the letters were not made by an official supervising authority. A letter was considered from a certified midwife asking the Board to grant her a voucher in place of her certificate, with the possession of which she had parted under an agreement with her employers. The Board decided in the circumstances of the case to decline to grant a voucher. A letter was considered from the clerk of the Derbyshire county council, suggesting that annual licences to practise as a midwife should be granted to suitable women passing a modified examination. The Board decided that no action should be taken in the matter. A letter was considered from the clerk of the Privy Council stating that the Local Government Board had instructed an inspector to inquire into the outbreak of a series of cases of pemphigus occurring in the practice of a midwife in Worcestershire. The Board decided that the clerk of the Privy Council should be thanked for his action in the matter. Letters were considered from Mr. Jordan Lloyd, one of the Board's examiners for the Birmingham centre, as to the duty of an examiner when a candidate is seen to be suffering from ulcerating lupus of the face or other kindred diseases. The Board decided: (1) that Mr. Lloyd should be informed that in the circumstances of the case it is the duty of the examiner to pass the candidate if she satisfies the test and to report specially on

her physical condition to the Board which will then consider whether a certificate should be granted to her; and (2) that a caution as to the health of intending candidates should be sent to all recognised training schools, recognised teachers, and approved midwives. It was agreed that Dr. G. E. Herman should be asked to inspect and to report on the maternity department of the Middlesex Hospital subject to the consent of the governing body of the hospital.

GLASGOW UNIVERSITY CLUB, LONDON.—This club held its autumn dinner on Nov. 27th, under the chairmanship of Professor Archibald Barr, in the Balmoral Hall of the Trocadéro Restaurant, Piccadilly-circus, London, W. The guest of the evening was Dr. C. O. Hawthorne, who has been honorary secretary of the club from 1901 to 1908, and has worked so successfully that the club is in a position of great prosperity with a membership of nearly 330. Professor Barr, after the usual loyal toasts had been duly honoured, proposed "The University and the Club." He mentioned that when he was appointed to the first professorship of engineering in the University of Glasgow it was his duty to deliver before the Senate an oration in Latin, which he described as the deadest of dead languages. This effort of his had a most remarkable result, for his eloquence so satisfied the craving of the Senate for Latin oratory that no one since had been asked to address them in that dead language. In the course of some humorous remarks on the origins of the learned professions he said that the beginning of medicine appeared to be wrapped in mystery, but he thought it would be agreed that the "medicine man" must have been developed at a late period because of the records of longevity that had come down to them from the earliest times. Dr. Guthrie Rankin then proposed the health of Dr. Hawthorne and spoke of his work for the club. Dr. Hawthorne, in reply, acknowledged the compliment paid to him and must have been much gratified at the enthusiastic reception accorded to his speech. Sir Donald MacAlister, in an eloquent and witty speech, proposed "The Guests," which was replied to by Professor James Little, who was followed by Sir William H. White, submitting the "Health of the Chairman," which was suitably acknowledged.

MIDDLESEX HOSPITAL.—A meeting of the court of governors was held on Nov. 26th; Mr. Andrew Clark presided. Major-General Lord Cheylesmore expressed the profound regret of the board at the death of the Earl of Derby, a true friend who had been for 17 or 18 years on the board. It was intended to erect a tablet to his memory in the chapel of the hospital and the secretary would be pleased to receive subscriptions for it. By the death of Sir Elliott Lees, too, they had lost a vice-president who never failed to display the keenest solicitude for the welfare of the hospital. To Mr. J. A. Mullens and his sons they gratefully acknowledged their indebtedness. It was unanimously recommended that the Earl of Derby, himself (Lord Cheylesmore), and the Hon. G. W. Spencer Lyttelton should be appointed vice-presidents of the hospital, and that Dr. William Duncan and Mr. William Hern should be elected consulting obstetric physician and consulting dental surgeon respectively. Mr. W. Salmon Nowell and Mr. H. Watson Turner had been appointed dental surgeon and assistant dental surgeon to fill vacancies. The value of the new observation wards had been proved during the past six months and lying-in wards had been successfully re-established. A contribution of £2500 towards their cost had been made by the trustees of the Zunz bequest. He regretted that their special appeal for funds for the Cancer Research Laboratories had not been very successful and the board urged that they should be helped in carrying on this great work, for which they required £2500 annually. The board was anxious that any interested should visit the hospital and see for themselves the work being done in the cancer wards and the Cancer Research Laboratories, which would create a wider sympathy and bring adequate financial support.

BOOKS, ETC., RECEIVED.

ARNOLD, EDWARD, 41 AND 43, Maddox-street, Bond-street, London, W.

The Diagnosis of Nervous Diseases. By Purves Stewart, M.A., M.D. Edin., F.R.C.P., Physician to Out-patients at the Westminster Hospital; Joint Lecturer on Medicine in the Medical School. Second edition, revised and enlarged. Price 15s. net.

BAILLIÈRE, TINDALL, AND COX, 8, Henrietta-street, Covent-garden, London, W.C.

Operations on the Ear. The Operations for Suppurative Otitis Media and its Intracranial Complications. By B. Heine, Professor of Otology in the University and Director of the Otological Polyclinic in Königsberg, Prussia. Translated and edited from the second German edition by W. Lombard Murphy, M.A., M.B., B.C. Cantab., F.R.C.S.I., &c., Surgeon to the Throat and Nose Department, St. Vincent's Hospital, Dublin. Price 8s. 6d. net.

CASSELL AND CO., LIMITED, London, Paris, New York, Toronto, and Melbourne.

The Diagnosis of Small-pox. By T. F. Ricketts, M.D., B.Sc. Lond., M.R.C.P., D.P.H., Medical Superintendent of the Small-pox Hospitals and of the River Ambulance Service of the Metropolitan Asylums Board. Illustrated from Photographs by J. B. Byles, M.B., B.C. Cantab., F.R.C.S. Eng., D.P.H., Senior Assistant Medical Officer at the Small-pox Hospitals of the Metropolitan Asylums Board. Price 21s.

FROWDE, HENRY, AND HODDER AND STOUGHTON, 20, Warwick-square London, E.C.

Oxford Medical Publications. A System of Syphilis. In Six Volumes. Edited by D'Arcy Power, M.B. Oxon., F.R.C.S., and J. Keogh Murphy, M.D., M.C. Cantab., F.R.C.S. With an Introduction by Jonathan Hutchinson, F.R.S. Vol. II. Price £2 2s. net.

Oxford Medical Publications. A System of Diet and Dietetics. Edited by G. A. Sutherland, M.D., F.R.C.P. Price 30s. net.

GRIFFIN, CHARLES, AND COMPANY, LIMITED, Exeter-street, Strand, London, W.C.

Physiology and Pathology of the Urine, with Methods for its Examination. By J. Dixon Mann, M.D., F.R.C.P., Physician to the Salford Royal Hospital; Professor of Forensic Medicine in the University of Manchester. Second edition, revised and enlarged. Price 10s. 6d. net.

KIMPTON, HENRY, 13, Furnival-street, Holborn, London, E.C. (STEXHOUSE, ALEXANDER, 40 and 42, University-avenue, Glasgow.)

Pathogenic Micro-organisms, including Bacteria and Protozoa. By William Hallock Park, M.D., Professor of Bacteriology and Hygiene, University and Bellevue Hospital Medical College, and Director of the Research Laboratory of the Department of Health, New York City, assisted by Anna W. Williams, M.D., Assistant Director of the Research Laboratory, Pathologist to the New York Infirmary for Women and Children. Third edition, enlarged and thoroughly revised. Price 18s. net.

A Manual of Diseases of the Nose and Throat. By Cornelius Godfrey Coakley, A.M., M.D., Professor of Laryngology in the University and Bellevue Hospital Medical College, New York City. Fourth edition, revised and enlarged. Price 14s. net.

LEWIS, H. K., 136, Gower-street, London, W.C.

Mind and its Disorders. A Text-book for Students and Practitioners. By W. H. B. Stoddart, M.D., F.R.C.P., Assistant Physician to Bethlem Royal Hospital. Price 12s. 6d. net.

LIPPINCOTT (J. B.) COMPANY, Philadelphia and London.

Clinical Diagnosis. By Charles Phillips Emerson, A.B., M.D., late Resident Physician, the Johns Hopkins Hospital, and Associate in Medicine, the Johns Hopkins University. Second Edition. Price 21s. net.

MACMILLAN AND CO., LIMITED, St. Martin's-street, London.

A System of Medicine. By Many Writers. Edited by Sir Clifford Allbutt, K.C.B., M.A., M.D., LL.D., D.Sc., F.R.C.P., F.R.S., F.L.S., F.S.A., Regius Professor of Physic in the University of Cambridge, Fellow of Gonville and Caius College, and Humphry Davy Rolleston, M.A., M.D., F.R.C.P., Senior Physician, St. George's Hospital; Physician to the Victoria Hospital for Children, Sometime Fellow of St. John's College, Cambridge. Volume IV., Part II. Price 25s. net.

MOSBY (C. V.) MEDICAL BOOK AND PUBLISHING COMPANY, St. Louis, Missouri.

Gonorrhœa in Women. By Palmer Findley, M.D., Professor of Gynecology in the College of Medicine of the University of Nebraska, Omaha. Price not stated.

Arteriosclerosis: Etiology, Pathology, Diagnosis, Prognosis, Prophylaxis, and Treatment. By Louis M. Warfield, A.B., M.D., Instructor in Medicine, Washington University Medical Department. With an introduction by W. S. Thayer, M.D., Professor of Clinical Medicine, Johns Hopkins University. Price not stated.

A Handbook of Suggestive Therapeutics, Applied Hypnotism, Psychic Science. By Henry S. Munro, M.D., Americus, Georgia. Second edition. Price not stated.

MURRAY, JOHN, 50A, Albemarle-street, London, W.

Intracellular Enzymes. A Course of Lectures given in the Physiological Laboratory, University of London. By H. M. Vernon, M.A., M.D., Fellow of Magdalen College, and Lecturer on Physiology at Exeter and Queen's Colleges, Oxford. Price 7s. 6d. net.

REBMAN, LIMITED, 129, Shaftesbury-avenue, Cambridge-circus, London, W.C.

A Manual of Practical X Ray Work. By David Arthur, M.D., D.P.H., Medical Officer in Charge of X Ray Department, West London Hospital, and Lecturer on Radiology, West London Post-Graduate College, and John Muir, B.Sc., M.B., Ch.B., and B.Sc. (Pub. Health). Price 7s. 6d. net.

SAUNDERS (W. B.) COMPANY, Philadelphia and London.

A Text-book of Operative Surgery. By Warren Stone Bickham, M.D., Phar. M., Junior Surgeon, Touro Hospital, New Orleans. Third edition, greatly enlarged. Price 28s. net.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

The Children Bill.

THE Children Bill has passed through all its stages in the House of Lords. The assent of the Commons has still to be obtained for the amendments which have been introduced into it in the Upper House.

HOUSE OF COMMONS.

WEDNESDAY, NOV. 25TH.

Education Authorities and Medical Inspection.

Mr. ASHLEY asked the President of the Board of Education whether the Board had taken upon itself under Section 13 (1) (b) of the Education (Administrative Provisions) Act, 1907, the task of deciding the relative status of educational and medical officers employed and paid by local education authorities.—Mr. RUNCIMAN replied: I am not sure what the honourable Member means but I am not aware of any decisions of the Board to which his description would apply.

Mr. ASHLEY further asked the same right honourable gentleman whether, as stated on p. 4 of the Board of Education Circular 576, relating to medical inspection, it was the duty of the Board, under the Education (Administrative Provisions) Act, to give directions to local education authorities regarding the method of inspection; and, if not, whether he would withdraw the circular so giving directions.—Mr. RUNCIMAN answered: The Circular No. 576 was obviously of a preliminary character as it was issued on Nov. 22nd, 1907. It was certainly the duty of the Board not to leave local education authorities without such advice and guidance in the initiation of the work of medical inspection as in the Board's opinion would conduce to efficiency and economy, and such advice and guidance have, in fact, been heartily welcomed by the local education authorities and their officers with a very few exceptions throughout the country. The question of enforcing the circular has not arisen, and, indeed, cannot arise.

Mr. ASHLEY also asked the right honourable gentleman whether the last three lines of page 8 of the Board of Education Circular 576 were the only part of that circular which it was not *ultra vires* for the Board to promulgate or to enforce; and whether, as stated on page 11, that circular was of a preliminary nature only.—Mr. RUNCIMAN said in reply: I do not think the circular can be properly described as in fact giving directions outside the Board's competence. The whole of the circular, (as was stated in paragraph 18, was of a preliminary nature only. The matter is now dealt with definitely in the code.

THURSDAY, NOV. 26TH.

Deaths in an Irish Orphanage.

Mr. MACCAW asked the Chief Secretary to the Lord Lieutenant of Ireland whether his attention had been called to the circumstances attending the death of nine inmates of the Mount St. Vincent Orphanage at Limerick and the illness of 44 others, as the result of eating meat which had been kept five days in the institution before being cooked; whether this orphanage received any grant from public funds; whether it was inspected on behalf of any public authority; and whether it was intended to take any action with a view to safeguard the health and lives of the inmates of this and similar institutions.—Mr. BIRRELL replied: My attention has been called to this case. The institution is an industrial school and as such receives a capitation grant from the State and is subject to Government inspection. It also receives contributions from county and borough funds. It has always been regarded as one of the best female industrial schools in Ireland. This unfortunate occurrence was a misadventure which might have happened anywhere and is deeply regretted by the managers of the school.

Deaths under Anæsthetics.

Mr. COOPER asked the Secretary of State for the Home Department whether his attention had been drawn to an inquest held on a boy named Alfred Lebathe, aged 12 years, who died at the Metropolitan Hospital during the administration of an anæsthetic and before an operation was commenced; and whether he had had any answer to his communication with the General Medical Council as to the advisability of in future requiring that the administration of anæsthetics should form a part of the curriculum of a medical student. Mr. COOPER further asked the right honourable gentleman whether his attention had been called to the repeated statements of the coroner for the City of London that only a small proportion of deaths occurring under anæsthesia in private practice came to the notice of the registrar or coroner; whether the annual return of the Registrar-General showed that an average of three deaths while under the influence of an anæsthetic occurred in the hospitals of England and Wales each week; and whether he would consider the advisability of appointing either a commission or making a grant to the Royal Society and asking that society to appoint a committee to inquire into all the facts of deaths under anæsthesia, and to advise generally as to the conditions to be observed and regulations to be carried out when an anæsthetic was administered.—Mr. GLADSTONE (by written answer) replied: I will answer both questions together. My attention has been drawn to several statements on this subject, including that of the coroner for the City of London, to the figures in the Registrar-General's report, and to many cases of inquests on persons who have died under anæsthetics. The Lord President of the Council, through whom I communicated with the General Medical Council, informs me that he understands a reply may be expected in a very few days from that body which is now in session. As I have stated before, the question of holding a formal inquiry must be postponed, at any rate till I know what action the medical authorities are prepared to take.[1]

Beri-beri on Merchant Ships.

Mr. COOPER asked the President of the Board of Trade whether he had received the report of the Special Committee of the Royal College of Physicians on the subject of beri-beri on merchant ships, and, if so, when it would be published.—Sir HUDSON KEARLEY (the Parliamentary Secretary to the Board of Trade) furnished the following written reply: A report by the Committee of the Royal College of Physicians on beri-beri has been received, but it contains no very definite conclusions on the subject and the Board of Trade does not propose to publish it. The Committee suggested that a Commission which is at present at work at Kuala Lumpur on the subject of Beri-beri might throw some light on the matter and the Board of Trade is awaiting the report of that Commission.

MONDAY, NOV. 30TH.

The Sanitary Condition of Barracks.

Mr. ASHLEY asked the Secretary of State for War whether he would grant a return showing the barracks in the United Kingdom which were reported by the Army Medical Department to be in an indifferent sanitary state, as judged by modern standards.—Mr. HALDANE replied: It is quite obvious that owing to the date of the construction of the barracks many of our buildings must necessarily fall short of what is considered desirable in these days. I am not prepared to admit that any of them are in a dangerous condition and I cannot agree that the return asked for should be compiled.

Notification of Pauper Consumptives.

Mr. VIVIAN asked the President of the Local Government Board whether he could see his way in the proposed legislation for making compulsory the notification of consumption in the case of paupers to extend the proposal of compulsory notification to all cases of consumption.—Mr. BURNS answered: I do not contemplate legislation on this subject at the present time. The action I propose to take as regards the notification of consumption in Poor-law cases will be taken under the existing powers of the Local Government Board and must, I think, be limited to such cases.

TUESDAY, DEC. 1ST.

Malarial Fever in India.

Mr. REES asked the Under Secretary of State for India whether malarial fever prevailed to an abnormal extent in Upper India and parts of Bengal and Bombay; and if so, whether special steps were being taken by the Government of India to combat this exceptionally severe epidemic.—Mr. BUCHANAN answered: Malarial fever has been exceptionally prevalent in the United Provinces and the Punjab, and to a less extent in Bombay, and has affected both the European and Indian population. The epidemic began in October last and a telegram received this morning reports it to be rapidly declining. To combat the disease quinine has been largely distributed free of charge, travelling dispensaries have been established, and in places much attention has been paid to the destruction of mosquitoes. The causation of the disease is under investigation by a specially trained medical staff.

White Phosphorus and Necrosis.

The Earl of RONALDSHAY asked the Secretary of State for the Home Department how many manufacturers in this country employed white phosphorus in the manufacture of matches; and how many cases of necrosis there had been in each such factory in each of the last five years.—Mr. GLADSTONE said in reply: There are ten firms using white phosphorus in the manufacture of matches. One firm has had five cases of necrosis during the last five years; the other firms have had none. This result has only been attained by means of an elaborate and costly system of regulation. Moreover, as intimated in the memorandum prefixed to the Bill now before the House, recent events have shown that the existing regulations are insufficient to remove entirely the risk of necrosis, and that even more stringent regulations would be required if the use of white phosphorus were to be continued.

WEDNESDAY, DEC. 2ND.

The Inspection of Fever Hospitals.

Mr. WATT asked the President of the Local Government Board whether any independent inspection was made by his department of fever hospitals managed by public corporations; and if not, would he see that such inspections were instituted, in view of the fact that the public had necessarily less opportunity of judging of these than in the case of general hospitals.—Mr. BURNS replied: A fever hospital provided by a local authority would not be inspected by a medical inspector of the Local Government Board in the ordinary course. The responsibility for the proper administration of such a hospital rests with the local authority, though in some instances where there has been a complaint of mal-administration the Board have caused an investigation to be made. Moreover, where the district of a sanitary authority is inspected by a medical inspector he would include the hospital of the authority in his inspection. It does not seem to me necessary that any change should be made in the practice in this matter.

Mr. WATT: Arising out of that answer, may I ask whether my right honourable friend is aware that a number of these fever hospitals have in late months been found in a very unsatisfactory condition?

Mr. BURNS: If my honourable friend, or anyone else, will give me the instances I shall be pleased to break through the ordinary rule and send medical inspectors to look into matters.

HOUSING AND TOWN PLANNING BILL.

County Medical Officers.

Standing Committee "B" of the House of Commons had under consideration on Wednesday, Nov. 25th, Part III. of the Housing and Town Planning Bill, which deals with the appointment of county medical officers. Sir F. CHANNING presided. The first of the clauses imposes the duty on every county council to appoint a medical officer of health under Section 17 of the Local Government Act, 1888.

Sir F. POWELL moved an amendment to provide that the officer should not be removeable except by, and with the consent of, the Local Government Board.

Mr. BURNS could not agree to the amendment but he would accept certain amendments standing in the name of Sir John Dickson-Poynder. These were: "(1) A medical officer of health for the county shall be removeable by the county council with the consent of the Local Government Board, and not otherwise. (2) Any such medical officer shall not be appointed for a limited period only. (3) A medical officer of health appointed under this section shall not engage in private practice and shall not hold any other public appointment

[1] See THE LANCET (current issue), p. 1682.

without the express written consent of the Local Government Board." In his judgment these would work better into the fabric of the Bill.

Mr. ADKINS said that the proposed clause was an extraordinary attack on local self-government. The clause was framed in a way which showed distrust and dislike of county councils. He thought that the amendments foreshadowed by the President of the Local Government Board would be resented by the county councils as an unwarrantable interference with their duties.

Mr. MUNRO FERGUSON said that the difficulty in Scotland was to get efficient service and to get rid of the inefficient men. The second was the more difficult, because if they had an amiable person as a public servant he might have every vice but they could not get rid of him. If they gave a right of appeal he did not think it could be regarded as an attack on county councils, but he thought all local authorities should have a free hand in the matter of dismissals.

Mr. MASTERMAN said that the Local Government Board proposed to do for the county medical officers what it did in the case of all large municipalities. It proposed by Order to prescribe the qualifications and duties of the medical officer of health. The proposals of the Government were a *bonâ-fide* attempt to carry out what was demanded by social and sanitary reformers and to encourage a real and active county medical service.

Mr. BURNS, in the course of further discussion, said that the Local Government Board wanted to unify the public health service from the circumference to the centre. They wanted a general and broad uniformity of public health laws, regulations, and by-laws. It was impossible to prescribe all the duties of the officers in a schedule to the Bill. That would not allow the variation which was essential to public health, having regard to the constant advance of medical science.

Mr. RAINY thanked the Government on behalf of the medical profession for the medical clauses and declared that they would do much to promote good medical service in the country.

The amendment was then withdrawn and the amendments outlined by Mr. BURNS were agreed to.

The following provisions of the clause were then agreed to:—"(1) The Local Government Board may by Order prescribe the duties of medical officers of health appointed by a county council under section seventeen of the Local Government Act, 1888, whether before or after the passing of this Act. (2) The medical officer of health of a county council shall, for the purposes of his duties, have the same powers of entry on premises as are conferred on a medical officer of health of a district by or under any enactment. (3) The power of county councils and district councils under the said section to make arrangements with respect to medical officers of health shall cease, without prejudice to any arrangement made previously to the date of the passing of this Act."

The second of the above subsections was an amendment proposed by Mr. BURNS.

The next clause provides: "(1) The clerk of a rural district council shall forward to the medical officer of health of the county council a copy of any representation, complaint, or information, a copy of which it is the duty of the district council to forward to the county council under section forty-five of the Housing of the Working Classes Act, 1890 (which relates to the powers of county councils). (2) The medical officer of health of a district council shall give to the medical officer of the county council any information which it is in his power to give, and which the medical officer of health of the county council may reasonably require from him for the purpose of his duties. (3) If the clerk or medical officer of health of a district council fails to comply with the provisions of this section, he shall be liable on summary conviction in respect of each offence to a fine not exceeding ten pounds."

These subsections were agreed to after "rural district council" in the first line of the first subsection had been substituted for "district council."

On the motion of Mr. THEODORE TAYLOR the following subsection was agreed to and added to the clause:—"If any dispute or difference shall arise between the clerk or the medical officer of health of a district council and the clerk or the medical officer of health of a county council under this section the same shall be referred to the Local Government Board, whose decision shall be final and binding."

The clause was then passed. The succeeding clause excludes Scotland from the operation of this part of the Bill, and it was agreed also to exclude the Administrative County of London. The clause then received the approval of the Committee and this concluded the consideration of Part III. of the Bill.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

ARCHIBALD, W., M.D., Ch.B. Glasg., D.P.H. Cantab., has been appointed Medical Officer of Health of the Borough of Luton.

BEIRNE, J. W., M.B., B.S. Irel., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Ballaghaderin District of the county of Roscommon.

ENGLISH, E., M.D. Durh., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Swinton District of the county of York.

GRIFFITH, WILLIAM, M.B., Ch.B. Vict., has been appointed Casualty Medical Officer to St. John's Hospital for Diseases of the Skin, Leicester-square, W.C.

GROSVENOR, WILSHAW WILLIAM, M.D. Dub., L.R.C.P. Lond., M.R.C.S., has been appointed Physician to the Gloucester General Infirmary and Eye Intstiution.

HAMILTON, W. CROSBIE, M.B., C.M. Edin., has been appointed Assistant Surgeon to the South Devon and East Cornwall Hospital, Plymouth.

HAWKER, GEORGE POOLE DAVID, M.B., B.C. Cantab., has been appointed Honorary Assistant Surgeon to the West of England Eye Infirmary, Exeter.

KETTLE, E. H., M.B., B.S. Lond., has been appointed Assistant Pathologist to the Cancer Hospital.

LANGMEAD, FREDERICK, M.D. Lond., M.R.C.P. Lond., has been appointed Assistant Physician to the "Dreadnought" Hospital, Greenwich, and Casualty Physician to St. Mary's Hospital.

LEWIS, A. C., M.R.C.S., L.R.C.P. Lond., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Rochford District of the county of Essex.

LYNCH, M. E., L.R.C.P. & S. Irel., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Clashmore District of the county of Waterford.

MACPHERSON, J. T., M.D. Aberd., has been appointed Medical Officer to the Nicholls Hospital, Manchester.

MARTIN, ANTONY A., M.D. Lond., D.P.H., has been appointed Certifying Surgeon under the Factory and Workshop Act to the Municipal Borough and Rural District of Eastbourne.

ROBINSON, FRANK, M.D., D.P.H., has been appointed Medical Officer of Health of the County of Cambridge.

SAWYER, JAMES E. H., M.D. Oxon, has been appointed Registrar of the 1st Southern General Hospital of the Royal Army Medical Corps of the Territorial Force.

SOLLY, REGINALD VAUGHAN, M.D., B.S. Lond., F.R.C.S. Eng., L.R.C.P. Lond., has been re-elected Medical Registrar and Pathologist at the Royal Devon and Exeter Hospital, Exeter.

STRUTHERS, J. W., M.B., Ch.B., F.R.C.S. Edin., has been appointed Assistant Surgeon to the Royal Infirmary, Edinburgh.

THOMAS, W. J., M.R.C.S., L.R.C.P. Lond., D.P.H. Lond., has been appointed Clinical Assistant to St. John's Hospital for Diseases of the Skin, Leicester-square, W.C.

THORNTON, G., M.D. Edin., M.R.C.P. Lond., has been appointed Medical Superintendent of the General Hospital, Colombo, Ceylon.

TURTON, EDWARD, M.D. Vict., B.Sc., Ch.B. Edin., M.R.C.P. Lond., has been appointed Honorary Consulting Physician to the Hull Hospital for Women and Orthopædics.

WATERFIELD, WILLIAM HENRY, L.R.C.P., L.R.C.S., L.M. Irel., has been appointed Medical Officer to the Workhouse, and District Medical Officer and Public Vaccinator by the Stonehouse (Devon) Board of Guardians.

YEATS, WILLIAM, M.D. Aberd., has been appointed Honorary Consulting Physician to the Nicholls Hospital, Manchester.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

ABERDEEN, CITY (FEVER) HOSPITAL.—Resident Physician. Salary £100 per annum, with board.

BETHLEM HOSPITAL.—Two Resident House Physicians (unmarried) for six months. Salary at rate of £25 each per quarter, with apartments, board, and washing.

BETHNAL GREEN INFIRMARY.—Assistant Medical Officer. Salary at rate of £100 per annum, with apartments, board, and washing.

BIRMINGHAM AND MIDLAND EYE HOSPITAL.—House Surgeon. Salary £70 per annum.

BIRMINGHAM, UNIVERSITY OF.—Lecturer in Physiology. Stipend £150 per annum.

BRIGHTON, HOVE, AND PRESTON DISPENSARY.—House Surgeon, unmarried. Salary £160, with rooms, coals, gas, and attendance.

BRISTOL ROYAL INFIRMARY.—Ophthalmic and Obstetric House Surgeon. Salary £75 per annum, with board, lodging, and washing. Also House Physician.

CAMBRIDGESHIRE, &c., ASYLUM, Fulbourn.—Second Assistant Medical Officer, unmarried. Salary £120 per annum, with board, lodging, and attendance.

CANCER HOSPITAL, Fulham-road, London, S.W.—Assistant Anæsthetist. Salary 25 guineas per annum.

CARDIFF INFIRMARY (GENERAL HOSPITAL).—House Surgeon for six months. Salary £30, with board, residence, and laundry.

CEYLON, MUNICIPALITY OF COLOMBO.—Assistant Medical Officer of Health. Salary £333, and conveyance allowance.

CHILDREN'S INFIRMARY, Carshalton, Surrey.—Senior Assistant Medical Officer. Salary £250 per annum. Also Assistant Medical Officer. Salary £150 per annum, both with board, lodging, and washing.

DUBLIN, DR. STEEVENS' HOSPITAL.—House Surgeon. Salary £100 per annum, with apartments, fire, and light.

DUDLEY, GUEST HOSPITAL.—Senior Resident Medical Officer. Salary £100 per annum, with board, residence, attendance, and washing.

EXETER, ROYAL DEVON AND EXETER HOSPITAL.—Assistant House Surgeon, unmarried. Salary £60 per annum, with board, lodging, and washing.

GLOUCESTER GENERAL INFIRMARY AND GLOUCESTERSHIRE EYE INSTITUTION.—Assistant Physician.

GREAT YARMOUTH HOSPITAL.—House Surgeon, unmarried. Salary £100 per annum, with board, lodging, and washing.

HAMPSTEAD GENERAL HOSPITAL.—Pathologist. Salary £100 per annum.

HASTINGS, ST. LEONARDS, AND EAST SUSSEX HOSPITAL.—House Surgeon, unmarried. Salary £100 per annum, with residence, board, and washing.

HEMEL HEMPSTEAD, WEST HERTS HOSPITAL.—Honorary Dental Surgeon.

HÔPITAL FRANÇAIS, 172, Shaftesbury-avenue, W.C.—Resident Medical Officer, unmarried. Salary £70 per annum, with full board.

HUDDERSFIELD INFIRMARY.—Senior House Surgeon. Salary £100 per annum, with rooms, board, washing, and attendance.

KENSINGTON GENERAL HOSPITAL, Earl's Court, London, S.W.—Resident Medical Officer. Salary £50 per annum, with board, washing, and residence.

KING EDWARD VII. HOSPITAL AND DISPENSARY FOR WINDSOR, ETON, AND DISTRICT.—House Surgeon, unmarried. Salary £110 per annum, with residence, board, laundry, and attendance.

LEEDS TUBERCULOSIS ASSOCIATION SANATORIUM, Gateforth, near Selby.—Resident Medical Officer for six months. Salary at rate of £100 per annum, with board, lodging, and washing.

LINCOLN COUNTY HOSPITAL.—Junior House Surgeon, unmarried, for six months. Salary £30, with board, residence, and washing.

LIVERPOOL EYE AND EAR INFIRMARY, Myrtle-street.—House Surgeon. Salary £80 per annum, with board and residence.

LONDON TEMPERANCE HOSPITAL.—Assistant House Surgeon, non-resident, for six months. Salary at rate of £75 per annum.

LOUGHBOROUGH AND DISTRICT GENERAL HOSPITAL AND DISPENSARY.—Resident House Surgeon. Salary £100 per annum, with rooms, attendance, board, and washing.

MANCHESTER ROYAL INFIRMARY.—Medical Officer for six months. Salary at rate of £100 per annum, with board and residence.

MANCHESTER, ST. MARY'S HOSPITALS FOR WOMEN AND CHILDREN.—Third and Fourth House Surgeons for six months. Salaries £25, with board and residence.

MEDICAL MISSION HOSPITAL SETTLEMENT OF WOMEN WORKERS, Canning Town.—Assistant Doctor (female) for six months. Board, residence, and laundry.

MIDDLESEX HOSPITAL, W.—Medical Registrar, Surgical Registrar, and Obstetrical Registrar.

NORTHAMPTON GENERAL HOSPITAL.—Senior Resident Medical Officer, unmarried. Salary £120 per annum, with apartments, board, washing, and attendance.

NOTTINGHAM CHILDREN'S HOSPITAL.—House Surgeon (female) for six months. Salary at rate of £80 per annum, with board, &c.

NOTTINGHAM GENERAL DISPENSARY.—Resident Surgeon, unmarried. Also Assistant. Salary of former £180 per annum, and of latter £160 per annum, with apartments, attendance, light, &c., in both cases.

NOTTINGHAM GENERAL HOSPITAL.—Assistant House Physician. Salary £60 per annum, with board, lodging, and washing.

PERTH DISTRICT ASYLUM, Murthly.—Assistant Medical Officer. Salary £120 per annum, with rooms, board, and washing.

PLYMOUTH, SOUTH DEVON AND EAST CORNWALL HOSPITAL.—House Surgeon. Salary £100 per annum, with board, residence, and washing.

POPLAR HOSPITAL FOR ACCIDENTS, Poplar, E.—Radiographer

PRESTON ROYAL INFIRMARY.—Junior House Surgeon. Salary £60 per annum, with board, washing, &c.

PRESTWICH UNION.—Medical Officer and Assistant Medical Officer. Salary of former £150 per annum, and of latter £140 per annum, with apartments, rations, &c.

ROYAL EAR HOSPITAL, Soho.—House Surgeon for six months. Salary at rate of £40 per annum.

ROYAL WATERLOO HOSPITAL FOR CHILDREN AND WOMEN, S.E.—Junior Resident Medical Officer. Salary at rate of £40 per annum, with board and washing.

ST. LUKE'S HOSPITAL FOR MENTAL DISEASES, Old-street, London.—Clinical Assistant, unmarried, for six months.

SALFORD ROYAL HOSPITAL.—Junior House Surgeon. Salary at rate of £50 per annum, with board and residence.

SHEFFIELD, JESSOP HOSPITAL FOR WOMEN.—House Surgeon, unmarried. Salary £60 per annum, with board and residence.

SOMERSET, WILLITON UNION.—Medical Officer for the Urban Parish of Watchet. Salary £22 10s. per annum, with fees. Also Medical Officer for the Williton District of the Union. Salary £65 per annum, with fees.

SWANSEA GENERAL AND EYE HOSPITAL.—House Surgeon. Salary £75 per annum.

THROAT HOSPITAL, Golden-square, W.—Assistant Surgeons.

WESTMINSTER GENERAL DISPENSARY.—Honorary Surgeon.

WESTMINSTER HOSPITAL, Broad Sanctuary, S.W.—Assistant Surgeon.

WEST RIDING OF YORKSHIRE.—Assistant Medical Officer. Salary £250 per annum, rising to £400.

WORCESTERSHIRE OPEN-AIR SANATORIUM, Knightwick.—Medical Officer and Wife. Joint salary £150 per annum, with board and house.

THE Chief Inspector of Factories, Home Office, S.W., gives notice of vacancies as Certifying Surgeons under the Factory and Workshop Act for Paddington and Marylebone, and for St. Pancras and Islington in the county of London, and for Rothwell in the county of Northampton.

Births, Marriages, and Deaths.

BIRTHS.

BARTON.—On Nov. 27th, at Lingfield-road, Wimbledon, the wife of P. F. Barton, M.A., M.B., B.C., of a daughter.

BLACK.—On Dec. 1st, at The Willows, Hailsham, Sussex, the wife of George Black, M.B., B.S. Lond., of a son.

GREENWOOD PENNY.—On Nov. 26th, at Marazion, Cornwall, the wife of S. Greenwood Penny, M.R.C.S., of a son.

HENRY.—On Nov. 27th, at Tresco, Kennington-road, S.E., the wife of G. Nicol Henry, M.B., C.M., of a son.

HERDMAN.—On Nov. 22nd, at 3, Foxhill-gardens, Norwood, the wife of Dr. Ronald Herdman, of a daughter.

MILWARD.—On Nov. 28th, at Rotton Park-road, Edgbaston, the wife of F. Victor Milward, M.B., F.R.C.S., of a daughter.

MARRIAGES.

FENOULHET—CAPON.—On Nov. 24th, at the Cathedral, Rangoon, Burma, Andrew Edward Colin (late Captain, 3rd Battalion, Royal Berkshire Regiment), elder son of Dr. E. C. Fenoulhet, J.P., and Mrs. Fenoulhet, Herne Bay, Kent, to Mary Elfrida Blanche ("Elfie"), elder-daughter of Dr. and Mrs. Herbert J. Capon, of 40, Upper George-street, Bryanston-square, W.

DEATHS.

COLMAN.—On Nov. 18th, Walter T. Colman, M.R.C.S., L.S.A.

ELLISTON.—On Nov. 27th, at Scothorne House, Felixstowe, William Alfred Elliston, M.D., J.P., in his 69th year.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

DISEASES IN SOMALILAND.

IN his report on the Somaliland Protectorate for the year ended March 31st, 1908, the Commissioner, Captain H. E. S. Cordeaux, C.B., C.M.G., mentions that the periods when sickness is chiefly prevalent are the spring and autumn, in consequence mainly of the lack of wool clothing among the natives, who use cotton almost exclusively, with a blanket at night when they can get it. The experience of the last three years has been that it is impossible to provide blankets for the hospital patients, as they are invariably smuggled out and sold. A considerable degree of care is called for in preventing the importation of infectious diseases, both from the interior of Africa generally and from Abyssinia in particular. The rice ports of India and the date-exporting centres along the Persian Gulf have also to be watched in this respect. The native Somali is essentially temperate and seems naturally liable to few diseases. When ill they, as a race, are inclined to disregard the matter. To travel from the locality where they happen to be at the time is looked upon as a universal panacea. Returns from the united coast hospitals show that malaria is on the increase, the cases recorded having been nine in 1904, 117 in 1905, 539 in 1906, and 751 in 1907. The causes leading to this condition of affairs are: (1) the increase of vegetation in the neighbourhood of the dwelling houses; (2) the existing unsatisfactory drainage system; and (3) the lack of measures to prevent the natives from digging or using wells in the native part of the towns. The number of cases of dysentery in 1907 was 135, as against 62 in the previous year, but all were of a very mild type. There were three cases of beri-beri in the local gaol. Scabies was almost epidemic during the year. The number of cases of syphilis presented for treatment was only 77. This figure is particularly misleading in estimating the prevalence of the disease. As a matter of fact, it increased very greatly during the year, but usually only the very advanced cases present themselves for treatment and those who are also very poor. The reason for this is that all who can afford to do so journey to a small spot on the Arabian coast named Sheikh Mohil, situated about a day and a half marching from Mocha, which is the usual landing port for those proceeding to the place. The treatment at Sheikh Mohil is conducted on the water-cure principle. The water is drunk on the first day or so; afterwards the treatment is chiefly confined to bathing frequently. The patients are allowed goats' meat and milk, sweet oil and rice, and two ounces of dates when the cure has shown signs of progressing favourably. The following articles of diet are not allowed—viz., meat or milk of camel, sheep, or cow. This point is considered worth recording, as very unusual and speedy cures have come under notice. During the year 68 cases of tuberculous disease were treated, with 12 deaths. The climate of the protectorate is a naturally dry and uniform one. Both the diurnal variations and the changes of the seasons maintain a regularity of mean variation that is remarkable. There are two distinct seasons—the hot, from May to September, when the coast belt becomes true desert, and the cool, from October to April. There are two ranges of temperature. These maintain a pretty uniform relation one to the other. The coast range of temperature exists over nearly a 50 mile belt inland, reaching to the hills, and is some 10° F. above the second, or highland, temperature.

DEROGATORY.

To the Editor of THE LANCET.

SIR,—The London County Council has a regulation in force to the effect that medical men who lecture on First Aid and Home Nursing must submit a form at the end of the course signed by themselves and *countersigned as being correct* by the "Responsible Teacher." In this form the date of the lectures and the fee claimed are entered. The same form has to be submitted by nurses giving similar instruction. I consider this countersigning of the application is derogatory to medical men (who are appointed by the County Council) and is quite unnecessary. I think the Lecturers should resent it *en masse*.

I am, Sir, yours faithfully,

Nov. 28th, 1908. M.D.

BRANDY SOLD UNDER A FALSE TRADE DESCRIPTION.

AT the Westminster police court recently Edgar Thompson Gideon, a publican, was summoned under the Merchandise Marks Act, 1887, for exposing for sale brandy to which a false description had been applied in the form of a label placed on the bottle bearing three stars, below which was another label with the words, "James Hennessey and Co., Cognac." The defendant had recently given up the public house at which the brandy was exposed for sale, and the excuse put forward was the suggestion that a barman if dishonest would keep up the stock under his charge by such expedients as putting deceptive labels upon bottles containing inferior spirits, and that this had occurred in the case in question. The defendant gave evidence but was unable to explain further than this how the brandy had got into a wrong bottle. He was fined £5 with £5 5s. costs. The medicinal use of brandy, which in the case of patients in humble circumstances must usually

be purchased at a public house, renders the careful supervision of its sale a matter of importance to the community, and the firm named must also view with satisfaction the punishment of a deception calculated to injure their reputation if undetected.

Fever.—We should be interested to know the name of the person who has entered into such unprofessional relations with the newspaper.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY OF MEDICINE, 20, Hanover-square, W.

TUESDAY.

SURGICAL SECTION (Hon. Secretaries—Herbert F. Waterhouse, Walter G. Spencer): at 5.30 P.M.

Paper:
Dr. W. Ironside Bruce: X Ray Examination of the Urinary Tract.

PATHOLOGICAL SECTION (Hon. Secretaries—Leonard S. Dudgeon, O. Grünbaum): at the Lister Institute, Chelsea Gardens, Chelsea Bridge-road, S.W., at 8.30 P.M.

Papers:
Dr. Henderson-Smith and Dr. Candler: The Wassermann Reaction in General Paralysis of the Insane (with demonstration).
Dr. Harden and Dr. Thompson: Anærobiosis.
Dr. Armit: Anaphylaxis.
Professor Minchin: Demonstratjon of Trypanosomes, including the Trypanosome of the Perch (showing Myonemes).
Dr. Bainbridge: On the Nature and Efficiency of certain Rat Viruses.
Dr. Kennaway and Dr. Leathes: Preliminary Note on the Examination of the Fat in Normal and Diseased Livers.

WEDNESDAY.

SECTION OF ANÆSTHETICS (Hon. Secretaries—Llewelyn Powell, R. W. Collum): at 8.30 P.M.

Paper:
Dr. N. H. Alcock: 50 Cases Anæsthetised with known Percentages of Chloroform, with a Description of the Apparatus employed.

THURSDAY.

OBSTETRICAL AND GYNÆCOLOGICAL SECTION (Hon. Secretaries—H. Beckett-Overy, William J. Gow): at 7.45 P.M.

Papers:
Dr. A. W. W. Lea and Dr. Sidebottom: Organisms present in the Uterine Secretion during an Afebrile Puerperium.
Mr. Alban Doran: Fœtus and Placenta from a Case of Extra-uterine Pregnancy. Operation at end of Fifth Month.
Mr. H. J. Paterson: A Case of Extra-Uterine Pregnancy. Operation during the Sixth Month of Pregnancy.

Specimens:
Dr. J. H. Dauber: Hysterectomy for Cervical Fibroid during Pregnancy.
Dr. J. S. Fairbairn: Necro-biotic Fibroma from a Patient Three Months Pregnant.
Dr. Keyworth: Uterus and Appendages from Fatal Case of Accidental Hæmorrhage showing Intraperitoneal Bleeding through the Fallopian Tubes.
Mr. J. Bland-Sutton: A Case of Diffuse Adeno-myoma of the Uterus.

FRIDAY.

CLINICAL SECTION (Hon. Secretaries: Raymond Johnson, H. D. Rolleston): at 8.30 P.M.

Cases:
Mr. Openshaw: Paralysis of the Lower Extremities.
Mr. Raymond Johnson: Renal Hypernephroma of Three Years' Duration.
Dr. E. I. Spriggs: Exophthalmic Goitre with Rheumatoid Arthritis.
Dr. G. A. Sutherland, Dr. Herringham, Dr. Rose Bradford, Dr. Weber, Dr. Spriggs, Dr. French, and Dr. Rolleston will show Cases of Anomalous Œdema.
Dr. Parkes Weber: Apparent Muscular Hypertrophy following Œdema of Left Leg.

Short Paper:
Dr. Parkes Weber: Mediastinal Lymphadenoma with Extreme Osteo-arthropathy.

N.B.—Fellows of the Society are entitled to attend and to speak at all Meetings.

PHARMACEUTICAL SOCIETY OF GREAT BRITAIN, 17, Bloomsbury-square, W.C.

TUESDAY.—8 P.M., Mr. R. E. Griffiths and Prof. Greenish: Microscopical Identification of the Green Extracts (communication from the Pharmaceutical Research Laboratory).—Exhibition of Lantern Slides and Specimens by Mr. W. G. Freeman, Prof. Greenish, and Mr. Holmes.

UNITED SERVICES MEDICAL SOCIETY, Royal Army Medical College, Millbank, S.W.

WEDNESDAY.—8.30 P.M., Fleet-Surgeon O. W. Andrews, R.N.: Recent Research Work on the Use and Abuse of Alcohol.

HUNTERIAN SOCIETY, London Institution, Finsbury-circus, E.C.

WEDNESDAY.—Clinical Evening.

BRITISH BALNEOLOGICAL AND CLIMATOLOGICAL SOCIETY, 20, Hanover-square, W.

WEDNESDAY.—5.30 P.M., Dr. Brodribb (Hastings): The Therapeutic Use of Sea Water.—Dr. Midleton (Bournemouth): Rheumatic Affections treated by Counter-Irritation of the Spine

HARVEIAN SOCIETY OF LONDON, Stafford Rooms, Titchborne-street, Edgware-road, W.

THURSDAY.—8.30 P.M., Dr. V. Bonney: Carcinoma of the Cervix.

OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM, 11, Chandos-street, Cavendish-square, W.

THURSDAY.—8 P.M., Card Exhibits by Dr. T. Henderson and others. 8.30 P.M., Mr. G. B. James: Note on the Operative Treatment of Strabismus.—Major Elliot, I.M.S.: Some Observations on Cataract Extraction.—Dr. A. Bronner: Iridectomy in Cases of Acute Iritis in which the Pupil cannot be Dilated.

CHILD STUDY SOCIETY LONDON, Parkes Museum, Margaret-street, W.

THURSDAY.—8 P.M., Dr. J. Kerr: The Educational Revolution and some Hints for the Future.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies-street, W.C.

MONDAY.—4 P.M., Dr. J. M. H. Macleod: Clinique (Skin). 5.15 P.M., Lecture: Mr. M. Little: Flat Foot.
TUESDAY.—4 P.M., Dr. T. Williams: Clinique (Medical). 5 P.M., General Meeting.
WEDNESDAY.—4 P.M., Mr. C. Ryall: Clinique (Surgical). 5.15 P.M., Lecture:—Dr. D. Ferrier: The Pupil in Health and Disease.
THURSDAY.—4 P.M., Sir Jonathan Hutchinson: Clinique (Surgical). 5.15 P.M., Lecture:—Mr. A. Carless: Some Points in the Surgery of the Biliary Passages.
FRIDAY.—4 P.M., Mr. E. Clarke: Clinique (Eye).

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

MONDAY.—10 A.M., Surgical Registrar: Demonstration of Surgical Cases. 12 noon, Dr. Low: Pathological Demonstration. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Dunn: Diseases of the Eyes. 2.30 P.M., Operations. 5 P.M., Lecture:—Dr. Lloyd: Anæsthetics.
TUESDAY.—10 A.M., Dr. Moullin: Gynæcological Operations. 2 P.M., Medical and Surgical Clinics. X Rays. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Operations. Dr. Abraham: Diseases of the Skin. 5 P.M., Lecture:—Dr. Low: Bilharziosis.
WEDNESDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Diseases of the Throat, Nose, and Ear. 12.15 P.M., Lecture:—Dr. Pritchard: Practical Medicine. 2 P.M., Medical and Surgical Clinics. X Rays. Dr. Scott: Diseases of the Eyes. 2.30 P.M., Operations. Dr. Robinson: Diseases of Women. 5 P.M., Lecture:—Dr. Beddard: Practical Medicine.
THURSDAY.—10 A.M., Surgical Registrar: Demonstration of Surgical Cases. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Dunn: Diseases of the Eyes. 2.30 P.M., Operations. 5 P.M., Lecture:—Mr. Baldwin: Practical Surgery.
FRIDAY.—10 A.M., Dr. Moullin: Gynæcological Operations. 12.15 P.M., Lecture:—Dr. Pritchard: Practical Medicine. 2 P.M., Medical and Surgical Clinics. X Rays. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Operations. Dr. Abraham: Diseases of the Skin. 3 P.M., Lecture:—Dr. R. Jones: General Symptomatology of Insanity (at Claybury Luuatic Asylum, Woodford Bridge, Essex).
SATURDAY.—10 A.M., Dr. Saunders: Diseases of Children. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2 P.M., Medical and Surgical Clinics. X Rays. Dr. Scott: Diseases of the Eyes. 2.30 P.M., Operations. Dr. Robinson: Diseases of Women.

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital, Greenwich.

MONDAY.—2 P.M., Operations. 2.15 P.M., Sir Dyce Duckworth: Medicine. 3.15 P.M., Mr. Turner: Surgery. 4 P.M., Mr. Lawrence: Ear and Throat. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Ear and Throat. 2.15 P.M., Special Lecture:—Sir Dyce Duckworth: Dyspepsia due to Alcoholic Abuse.
TUESDAY.—2 P.M., Operations. 2.15 P.M., Dr. R. Wells: Medicine. 3.15 P.M., Mr. Carless: Surgery. 4 P.M., Sir M. Morris: Diseases of the Skin. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin.
WEDNESDAY.—2 P.M., Operations. 2.15 P.M., Dr. F. Taylor: Medicine. 3.30 P.M., Mr. Cargill: Ophthalmology. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 11 A.M., Eye.
THURSDAY.—2 P.M., Operations. 2.15 P.M., Dr. G. Rankin: Medicine. 3.15 P.M., Sir W. Bennett: Surgery. 4 P.M., Dr. Sale-Barker: Radiography. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Ear and Throat. 3.15 P.M., Special Lecture:—Sir Wm. Bennett.
FRIDAY.—2 P.M., Operations. 2.15 P.M., Dr. R. Bradford: Medicine. 3.15 P.M., Mr. McGavin: Surgery. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin.
SATURDAY.—2 P.M., Operations. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 11 A.M., Eye.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.

MONDAY.—Clinics:—10 A.M., Surgical Out-patient (Mr. H. Evans). 2.30 P.M., Medical Out-patient (Dr. T. R. Whipham); Nose, Throat, and Ear (Mr. Carson); X Rays. 4.30 P.M., Medical In-patient Clinic (Dr. A. J. Whiting).
TUESDAY.—Clinic: 10 A.M., Medical Out-patient (Dr. A. G. Auld). 2.30 P.M., Operations (Mr. Carson). Clinics:—Surgical (Mr. W. Edmunds); Gynæcological (Dr. A. E. Giles).
WEDNESDAY.—Clinics:—2.30 P.M., Medical Out-patient (Dr. T. R. Whipham); Skin (Dr. G. N. Meachen); Eye (Mr. R. P. Brooks). 4.30 P.M., Dr. S. J. Gilfillan: Demonstration of Cases of Mental Disease at the Colney Hatch Asylum.
THURSDAY.—2.30 P.M., Gynæcological Operations (Dr. A. E. Giles). Clinics:—Medical Out-patient (Dr. A. J. Whiting); Surgical (Mr. H. W. Carson); X Rays. 3 P.M., Medical In-patient (Dr. G. P. Chappel).

FRIDAY.—10 A.M., Clinic:—Surgical Out-patient (Mr. H. Evans). 2.30 P.M., Operations (Mr. W. Edmunds). Clinics:—Medical Out-patient (Dr. A. G. Auld); Eye (Mr. R. P. Brooks). 3 P.M., Medical In-patient (Dr. R. M. Leslie). 4.30 P.M., Lecture-Demonstration:—Mr. R. P. Brooks: Optic Neuritis.

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN, Leicester-square, W.C.

THURSDAY.—6 P.M., Chesterfield Lecture:—Fungous Diseases of Hair: (1) Hyphogenic Sycosis; (2) Tinea.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury, W.C.

TUESDAY.—3.30 P.M., Dr. A. Turner: Epilepsy.
FRIDAY.—3.30 P.M., Mr. Armour: Surgery of the Nervous System.

HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM, Welbeck-street, W.

THURSDAY.—5 P.M., Dr. E. D. Macnamara: Syphilitic Affections of the Nervous System.

HOSPITAL FOR SICK CHILDREN (UNIVERSITY OF LONDON), Great Ormond-street, W.C.

THURSDAY.—4 P.M., Lecture:—Dr. Thursfield: Pyelitis.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (7th)—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M.), St. Mark's (2.30 P.M.).

TUESDAY (8th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M., Ophthalmic, 2 P.M.), Tottenham (2.30 P.M.).

WEDNESDAY (9th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M., Dental, 2 P.M.), Tottenham (Ophthalmic, 2.30 P.M.), West London (2.30 P.M.).

THURSDAY (10th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Orthopædic (9 A.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M.), Tottenham (Gynæcological, 2.30 P.M.), West London (2.30 P.M).

FRIDAY (11th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), Tottenham (2.30 P.M.), St. Peter's (2 P.M.).

SATURDAY (12th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 A.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M.), West London (2.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospital operations are performed daily.

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(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Dec. 3rd, 1908.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radio in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
Nov. 27	30·27	S.W.	...	72	53	45	47	48	Fine
,, 28	30·07	S.W.	...	70	54	46	47	49	Overcast
,, 29	30·25	S.W.	...	59	54	49	51	54	Overcast
,, 30	30·40	S.W.	...	59	54	50	51	52	Overcast
Dec. 1	30·42	E.	...	47	45	44	44	45	Overcast
,, 2	30·38	S.W.	...	46	45	39	38	40	Overcast
,, 3	30·28	E.	...	41	41	39	39	40	Overcast

During the week marked copies of the following newspapers have been received:—*Birmingham Post, Scientific American, Stafford Sentinel, Manchester Evening News, Glasgow Herald, Hull Morning News, Edinburgh Evening Despatch, Wellingborough News, Morning Advertiser, Daily Telegraph, Liverpool Courier, Sunderland Echo, Doncaster Chronicle, Hartlepool Mail, Keighley News, Kent Messenger, Dublin Times, Belfast Whig, Glasgow Citizen, Leamington Spa Courier, Worcester Journal, &c.*

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